ELECTRICITY ON THE FARM *Magazine*

VIRGINIA POLYTECHNIC INSTITUTE
AGRICULTURAL ENGINEERING LIBRARY
BLACKSBURG, VIRGINIA

MARCH, 1951

Cable Heated Floor Brooder
Best Milk We Ever Produced
Equipment, Defense and You
Early Sweet Potato Plants
Secret of White Laundry

24th Year . . . . . No. 3

IRRIGATION - 5 HP STYLE
SEE STORY INSIDE

A CASE-SHEPPERD-MANN PUBLICATION

EQUIPPED WITH GENERAL ELECTRIC MOTOR

For quality in electrified farm equipment . . .

GENERAL ELECTRIC

FarmNews

EQUIPPED WITH GENERAL ELECTRIC CONTROL

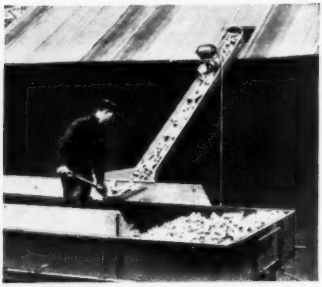
. . . look for these labels whenever you buy.

MORE POWER TO THE AMERICAN FARMER through more electricity on the farm

BARN CLEANER EASES MANURE HANDLING

ELECTRIFIED WORKSAVER OF THE MONTH

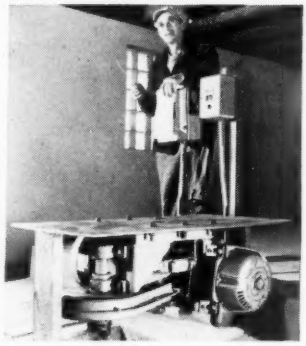
ALL PURPOSE ELEVATOR HAS PLACE ON MOST FARMS



Here is a rugged, versatile elevator that will save work almost anywhere a man can use a shovel or fork. The handy implement may be used to move litter or manure, small grain or ear corn, ground feed, pellets, chopped hay, ensilage or most any bulk material.

Mr. Dale Reiff, RR #1, South Whitley, Indiana, bought one of these elevators a year and a half ago. He has this to say: "I figure that the elevator has saved ⅓ of my labor time." Check "Elevator" in the coupon below, for more details.

Push button replaces fork on New York State dairy as G-E motor and control do the work



Smiling Gilbert West (above, left) demonstrates the simple controls that operate his barn cleaner. The "all electric" dairy barn (above, right) which Mr. West manages also uses General Electric fluorescent lighting and modern ventilation fans.

Gilbert West, head herdsman of Joseph DeMarco's Pine Grove Farm near Duanesburg, N. Y. is another of the growing number of farm operators who have found that by pushing a button they can forget the back-aching part of dairy barn cleaning. A new barn cleaner simplifies this chore for Mr. West who says: "This efficient barn cleaner has taken over all the drudgery and dirty work of handling the manure from approximately 70 milking cows and young stock. The time and energy which used to be given to this daily job is now given to better and more sanitary practices around the dairy farm. This pays off in better milk prices."

Mr. West goes on to say: "I know that the G-E motor and control on this equipment will give long and satisfactory service and that means a lot now when farmers must cut costs to a minimum and help is getting scarce." For more information about this electrical worksaver, check "Barn Cleaner" in the coupon below.

FARMERS' WIVES TAKE TO NEW HOME PASTEURIZER

This new home milk and cream pasteurizer has won the heart of many a farmer's wife, including Mrs. Kathryn Dolbeare of R. #8, Barry, Ill. With a handsome young son to watch out for she says: "The best and most important reason for liking our pasteurizer is that it gives us pasteurized milk — health insurance that city folks have insisted on for years."

A dependable G-E Calrod* unit in this model pasteurizer provides uniform heating and easy operation according to Mrs. Dolbeare. For more information about this useful product, check "Pasteurizer" in the coupon below.

*Reg. U.S. Pat. Office

General Electric Company
Section 671-15, Schenectady 5, N. Y.

I would like additional information on the following equipment:

☐ Barn Cleaner ☐ Pasteurizer ☐ Elevator

NAME_____

ADDRESS_____

CITY_____ STATE_____

Increase Milk Production *up to 48% with* MOW-CURED HAY!

Mow curing retains food value; cows like it better and eat more of it — means more milk or meat with less grain feeding; prevents losses due to bad weather; keeps hay cool . . . eliminates fire hazard from spontaneous combustion.

In carefully controlled tests, over a period of several years, at the United States Department of Agriculture Research Center, Beltsville, Md., cows fed mow-cured hay (an alfalfa-Ladino mixture) came through with as much as 48% more milk than cows fed hay completely cured in the field. This high increase followed a haying season when crop losses were heavy, due to wet conditions. Hay cured in the field had to be turned—labor costs went up and 39% of the leaves were lost.

Even during a two-year period when weather conditions were better than average, the tests showed cows gave 8% more milk when fed mow-cured hay. Similar results have been experienced on hundreds of family farms where leafy, green mow-cured hay, high in protein and carotene content is helping build farm profits.

A rule-of-thumb figure on the value of mow curing is that for an expenditure of $2 per ton the value of hay may be increased $10. More important, over the years, hay crop losses amount to approximately 25%. They can be practically eliminated with mow curing.

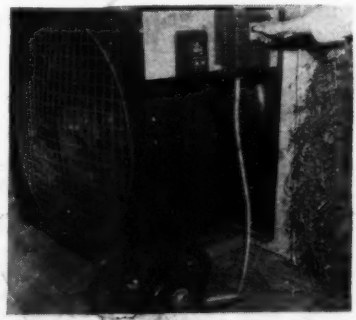
How Hay Is Mow Cured

A duct system is built in the mow, so that air can be circulated through the entire mass of hay. The type and design of the duct system varies with the size and shape of mow and type of hay (loose or baled). Air is forced through the hay with a motor-driven fan. Since uniform circulation of air through the hay is essential, and air velocity and pressure must be controlled, the system should be designed by a specialist for best results.

Selecting the FAN, MOTOR and CONTROL. Your power supplier or farm equipment dealer will recommend the type and size of equipment best suited to your needs. A fan designed to deliver a high volume of air at a low noise level should be used. It should be of rugged construction with sturdy antifriction bearings. It should have a name plate with size, capacity and speed clearly indicated. It should have a safety guard on the inlet side to prevent accidents.

For dependable, low-cost operation, insist on a Westinghouse Motor of the proper size. Westinghouse Motors are built to give safe, trouble-free farm service. There are no brushes to wear out or cause sparks. Sealed ball bearings are factory pre-lubricated for life.

The motor should be controlled by a Westinghouse Farmstarter®. These starters provide overload protection, in addition to starting and stopping the motor. They are made for



manual or automatic motor starting and stopping service. For hay-drying fans, automatic starting by a time clock saves time, electricity and helps produce a better quality of hay.

For further information about mow curing, see your power supplier or your farm equipment dealer.

Westinghouse Electric Corporation, Rural Electrification Department, Pittsburgh 30, Pa.

G-10132

YOU CAN BE SURE... IF IT'S Westinghouse

Editor's Chat

HELLO

I was introduced to you in February. I am looking forward to our chats here on problems that directly or indirectly involve our welfare and how electricity can be utilized on your farm.

Our welfare and the American way parallel each other. You and I must preserve this American way. We'll discuss this more later. But for now its just "hello."

RAIN INSURANCE

Irrigation is nearly as old as civilization. The Indians in the Southwestern part of this country were irrigating land before the coming of the white man. Without irrigation Utah could never have become a great agricultural state. The Mormons in Utah were pioneers in establishing community irrigation projects. As in Utah, irrigation is practiced extensively by most of our Western farmers. The bigness of the West has been reflected in the thinking on irrigation. But irrigation is practical and profitable on small plots, too. Many farmers have proved this so. And in many cases, the power requirements for pumping the water are quite small.

There is no section of the United States that is immune from dry spells and, as a result, crop failure. But there are very few sections where a 5 HP motor and a pump can't provide pretty good rain insurance. Do you have any?

EAT WELL—MAKE MONEY

Looming over the horizon is another meat shortage. Remember how poultry products came to the rescue during the last war? Why not begin brooding 500 to 1,000 chicks this month. At the end of two months you'll have a back yard full of delicious fryers. And you can pick yourself out a nice bunch of young pullets to provide you with eggs in a few months. If you have a freezer, or a storage drawer at a locker plant, you can pack away your poultry fryer needs for the entire year. Those that you don't need can be sold to offset some of the expense of feed and brooding. You may even caponize a few. Mmm, good eating! But what has that got to do with electricity?

You can brood automatically in a cold room with an electric brooder. The air stays fresh. There are no fumes given off. There is no fuel to handle. There is no fire to tend. No ashes have to be removed. It will not blow out on a windy night. It is automatic. Therefore, "setting up" is not required nor will the brooder house get overheated. There is no fire hazard. It is easy to store. There is no chimney to put up or take down. What could be simpler?

Just a word of advice: visit one of your neighbors who has brooded electrically. Get him to tell you the why's and wherefore's. No type of brooding is foolproof. Then if you decide to brood electrically, follow the manufacturer's recommendations. He wants you to be satisfied.

FOR FREE

Our twelve page index for 1950 is now available. It lists all the subjects covered during the year. What's more, there is a buyer's guide section which lists equipment available from our advertisers. Simply write us a card or letter requesting it. Many of our readers keep all of their back copies. They make a handy reference. With these indexes, that we make available to you at the end of each year, you can find information in a jiffy.

YOUR LETTERS

Your letters are welcomed. Send your questions to us. We will make every attempt to answer them for you as in the past. If we don't have the answer, we will try to find it for you. In addition to your questions, we would like to know if you have found a new advantage from the use of electricity on your farm. Basic research is done in laboratories and on test demonstrations. But you make the final test. We would like to have your comments on articles that appear in the magazine. Compliments are fine. We will appreciate them. But we'd rather you would be frank and tell us what you think. With your help, we will strive to make this magazine a better and better source of information for you.

Jim Ridout

ELECTRICITY ON THE FARM *Magazine*

24 W. 40th St.,
New York 18, N. Y.

MARCH, 1951—VOL. 24, NO. 3

W. J. RIDOUT, JR., *Editor*
KENNETH V. ANDERSON, *Asst. Editor*
NAN SHAW, *Housekeeping Editor*
KARL H. GORHAM, *Business Manager*

Subscription rates: $1.00 per year; $2.00 for 3 years; $3.00 for 5 years. 10 cents per copy. Bulk rates on request.

Copyright 1951 by
CASE-SHEPPERD-MANN PUBLISHING CORP.
Executive Offices: 24 W. 40th St., New York 18, N.Y.
KARL M. MANN, *President;* FRED SHEPPERD, *Editorial Director;* I. H. CASE, *Vice-President and General Manager.* Mid-West Office: 8 So. Dearborn St., Chicago 3, Ill. *Western Representatives:* 605 Market St., San Francisco 5, Cal.; 6000 Miramonte Blvd., Los Angeles 1, Cal.
Not to be reprinted without permission. Note copyright.

NEVER BEFORE A FREEZER THIS BIG... SO EASY TO USE!

Only PHILCO puts 70% of the storage space above knee level

Only PHILCO slopes in to the bottom so you can stand closer comfortably

It's the New 12½ cu. ft. PHILCO

HOLDS 435 LBS. OF FOOD!

NO freezer ever built gives you quite as much in design, features, and money-saving value as this magnificent new 12.5 cubic foot Philco.

Built so a woman can use it more easily, more conveniently, it has 70% storage space above knee level, brings more food packages within easy reach without stooping. It has a front that slopes *in to the base* so you can stand closer. Its gleaming porcelain lined interior is divided into 3 compartments with new easy-lift storage baskets and new plastic *Utilitray*.

Temperatures as low as 15 degrees *below* zero permit sharp freezing in any compartment. Far and away the most advanced home freezer for '51, this newest Philco sets a new high in freezer convenience, economy and value!

See the New Philco Freezers... 8 and 12½ cubic feet
NOW AT YOUR PHILCO DEALER!

Hotpoint All-Electric Kitchen

Saves You At Least 8 Hours' Work Every Week!

● **Work-Saving FOOD-STORAGE CENTER** is planned around the Hotpoint "Super-Stor" Refrigerator with new Circulaire Cooling Action. Shown in large illustration is the "Super-Stor" Combination—a real food freezer of generous capacity and a fine refrigerator in one.

Expertly Planned Work-Saving Centers Save You Steps, Energy And Time!

THERE's time-saving convenience beyond your greatest expectations in a beautiful Hotpoint All-Electric Kitchen!

● **With the magic of** electricity doing all the tedious jobs, you save at least eight hours a week—have more time for yourself, more for your family, more for those many extra duties expected of America's women these critical days!

● **You'll discover** new pleasure in cooking the Hotpoint Push-button way. You'll quickly forget how tiresome it was to do dishes when the Hotpoint Dishwasher washes and dries them at the touch of a dial. You'll be delighted with the convenience of the Hotpoint "Super-Stor," the world's finest refrigerator.

● **Let your Hotpoint dealer** show you how you can build your all-electric kitchen—step by step, if you choose. Hotpoint Inc. (*A General Electric Affiliate*), 5600 West Taylor Street, Chicago, 44.

Hotpoint dealers are easy to find—just look in classified phone book.

REPLACEMENT OR RETURN OF MONEY GUARANTEED BY GOOD HOUSEKEEPING IF NOT AS ADVERTISED THEREIN

Guaranteed by Good Housekeeping

Everybody's Pointing To

Hotpoint

Quality Appliances

Look To Hotpoint For The Finest...First!

Ranges • Refrigerators • Dishwashers • Disposalls® • Water Heaters • Food Freezers • Automatic Washers • Clothes Dryers • Rotary Ironers • Cabinets

ELECTRICITY ON THE FARM Magazine

ELECTRICITY: *Versatile Energy for Many Farm Uses—Power, Light, Heat, Electronics.* Easily adapted, started, controlled: automatic. Labor doer and saver, money maker, and product improver and increaser. Used intelligently, electricity changes the whole aspect of farm life and production.

Irrigation-5 HP Style

Don't Underestimate Your Chore-Motor; Teamed With a Pump It Can Provide Rain Insurance

By HERBERT JONAS

You can lift a lot of water and irrigate a good sized piece of ground with a 5-horsepower electric motor.

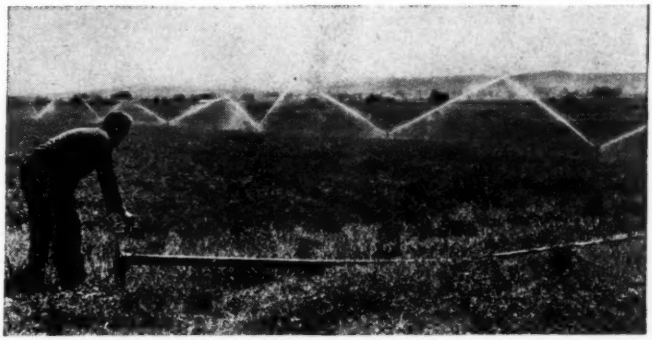
If you pump from a ditch, a creek or a well, where there is little lift, you may be able to handle up to 40 acres. A 5-HP electric motor, hooked to a centrifugal pump, will produce a good flow if your water source is within 15 feet of ground level.

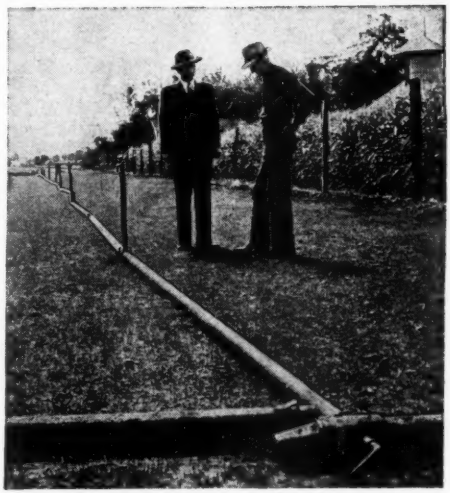
Just how much land you can irrigate with a 5-HP installation depends on your water supply. Friction loss in your pipe line, type of soil, and the kind of crops grown should also be considered. You'll want to discuss these factors with your Power Company farm representative, your county agent or soil conservation district supervisor and your pump dealer before you buy equipment.

The job a 5-HP outfit will do also depends on whether you use surface or sprinkler-type irrigation. You'll need more water, and consequently irrigate less land, if you rely on surface irrigation.

Your first cost will be greater if you install a sprinkler system. However, you will find your water supply will go twice as far on sloping land. There will be less soil erosion. You may be faced with a land leveling job if you try surface, or rill-type irrigation. But, if you install a sprinkler system, you won't be bothered by slopes, humps, or swales. The overhead sprinklers distribute water evenly, without run-off. Land, level enough for average farming, is level enough to irrigate with a sprinkler system.

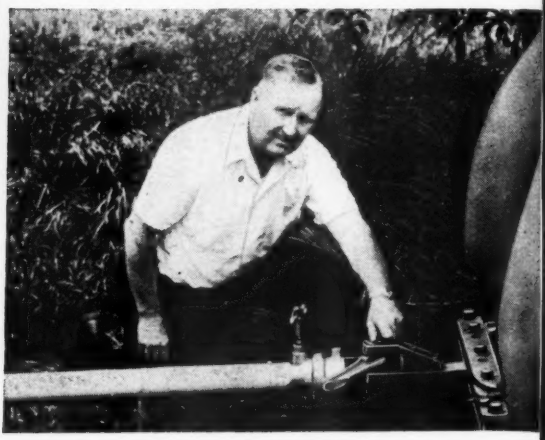
There are farmers in the Sunnyside district of Yakima valley, Washington, who now irrigate with a 5-HP electric motor and sprinkler system. And they get a better job than when they used a 25-HP gasoline engine to pump for rill-type irrigation. Cases like this, of course, are extreme. The 25-HP gasoline engines were put in use before farmers paid much attention to the hydraulics of irrigation. The new 5-HP electric installations are tailored for the job. The importance of careful engineering when you put in an irrigation system can not be over emphasized.





Above: Yes sir! A 5 hp motor can do a real job. Take a look at this alfalfa field being irrigated by a portable sprinkler system near Sunnyside, Washington. Could you use one like it? **Left:** Here is the portable sprinkling system used by O. A. White, Walla Walla, Washington. Note the quick-coupling aluminum pipe. It is easy to move about a small farm.

By rule of thumb, a 5-HP electric motor will do a better pumping job than a 7½-HP gasoline engine. The electric motor will handle temporary overloads that would throw a gasoline engine off the line. In addition to being easier to start and requiring little attention, an electric pumping installation usually



Left: A 5 hp single-phase motor and centrifugal pump lift water from this pond, 16 feet deep. It supplies sprinkler system which irrigates 40 acres of pasture and alfalfa at S. E. Schaeffler farm, Toppenish, Washington. Pond is supplied by irrigation seepage. The water level is higher during summer months than in December when this photo was made. **Below:** Sprinkler system used by Rory Collins, Hood River, Oregon, is moved by hooking on to tractor hitch. The aluminum lateral line travels on sled runner supports.

costs less to operate. Pump men figure a gasoline engine takes a pint of gasoline per HP per hour of operation.

You might not think it necessary to irrigate pasture that gets from 75 to 80 inches of annual rainfall. Douglas Messinger does, and he makes it pay! Dry pasture once caused a drop in milk production at the Messinger farm. The 5-HP electric motor and sprinkler system have corrected this.

Messinger has a dairy farm near Astoria, on the Oregon coast. He put in a sprinkler system to keep 30 acres of pasture green during summer months when rainfall is slack. A 5-HP electric motor and pump lift creek water 10 feet and distribute it on clover, oat grass and ladino clover pasture. The 17 sprinklers put three inches of water on an acre in 12 hours. Messinger covers two acres a day with his irrigation system. He gets over the pasture once each two weeks. This applies six inches of supplemental water each month during June, July, August and September.

It looked like a calamity when a drainage project near Toppenish, Washington, lowered the water table that had been subirrigating S. E. Schaeffler's natural meadow. But, the way things turned out, Schaeffler says it is one of the best things that ever happened to him. He brought in a dragline and struck water about three feet under the ground surface. He dug a pond 16 feet deep and 25 feet in diameter. Then he bought a 5-HP electric motor, a 2½-inch centrifugal pump, and put in a sprinkler system. He seeded what had been natural meadow with a mixture of orchard grass, smooth brome, red clover and birdsfoot trefoil. Where the natural meadow had forage for one Aberdeen Angus to the acre, the seeded pasture provides for four head of cattle.

Schaeffler uses the sprinkler system on 40 acres of alfalfa and pasture. He has 1,220 feet of 6-inch main line pipe. There are 16 sprinklers, with ¼-inch nozzles and 3/16-inch spreaders on 1,000 feet of 3-inch lateral. Each sprinkler throws a 100-foot circle of water and puts one-half inch of water on the ground in an hour. Schaeffler put in big sprinklers so he could get over the ground faster. He moves the lateral line after eight hours. The outfit is capable of covering the 40 acres in five days of continuous operation.

The big sprinklers aren't so good for new seeding. However, Schaeffler gets around that by soaking the ground before he seeds. If he finds the ground is packed too hard, he goes over it with a harrow to loosen the top half-inch of soil.

Schaeffler irrigates alfalfa after each cutting. He puts the water on while the growth is low, and then quits. He thinks he may lose a little tonnage with a single irrigation (he gets an average of six tons to the acre) but he figures he gets better hay with more feed value.

The pasture on the Schaeffler place is cross-fenced. The best five-acre piece will carry 30 head of beef for six weeks. The cattle come off when the grass has been grazed down to about four inches. Schaeffler then clips the pasture with a mower, leaves the clippings for a mulch, and brings in the sprinklers. After the pasture is soaked up, it stands idle for from 2 to 3 weeks until the grass gets 8 to 10 inches of growth.

The big advantage Schaeffler finds in sprinkler irrigation is that he can control the amount of water he puts on. With rill-type irrigation, part of the land would get too much water, some not enough.

A 5-HP electric motor and

sprinkler irrigation system simplified the job of seeding pasture on 20 acres of new land for A. K. Morrow and Archie Maples, sheepmen of Yakima Valley, Washington. Water was available at gravity flow from the Bureau of Reclamation's Roza project canal. The two men cleared sagebrush by hitching tractors to each end of a 10-foot railroad rail and dragging it across the land. Electric pumping and the sprinkler system distributed water evenly over ridges and swales. No time or expense was required for land leveling. The 20 acres were seeded with a pasture mix of clover and orchard grass.

Water is put on the 20 acres of land with a 1½-inch centrifugal pump at 35 pounds pressure through 1,200 feet of 4-inch main line and 620 feet of 3-inch lateral. This irrigation system puts out 125 gallons of water per minute. It has 16 sprinklers, each of which throw a 98-foot circle of water. The sprinklers, which run day and night from June through September, are moved to a new location each 12 hours. It takes 14 moves and seven days to put three inches of water on 20 acres of pasture. The pasture, which takes care of sheep that can't go to summer range in the mountains, is cross-fenced and used on a rotation basis. One pasture area is grazed, while the second is irrigated. The third area lies idle to recover growth after watering.

Electric pumping and sprinkling brought a number of benefits to Morrow and Maples. They got a better stand of pasture from the seeding because of even water distribution. Erosion has been checked. There is more grazing area because of the fact that no space is wasted for ditches and rills.

Combination Drainage and Irrigation System

A drainage system, a 5-horsepower electric motor and pump, and sprinkler irrigation have put water to work where it can be used on a ten-acre tract near Tieton, Washington. Until Tom Shelton saw possibilities and bought the land, seepage water from an irrigation canal had turned this piece of ground into a swamp.

Shelton called in Carl Walker, a soil conservation service engineer, and asked for advice. Walker dug test holes and made soil samples. He found that a sub-strata of heavy clay was forcing seepage water up into the top soil. This clay sub-strata was seven feet below the ground surface at the irrigation canal. But it sloped upwards towards the center of the field.

Shelton dug a ditch eight feet deep between the irrigation canal and the field. He then installed 8-inch bell-joint drain pipe. The joints were packed with gravel before he filled in the ditch. The field is 660 feet square. The drain continues another 700 feet to empty at a drop in the canal.

A concrete pipe sump taps the drain at the corner of the field and diverts half of the seepage water to a 5-horsepower electric pump and sprinkler system. The pump delivers 75 gallons per minute at 30 pounds pressure.

The main line for Shelton's sprinkler system, 660 feet of 4-inch pipe, is carried on top of the drain ditch. The 660 feet of 3-inch lateral line carries 17 sprinklers with 11/16-inch heads at 40-foot spacing. Each sprinkler throws a 61-foot circle, puts on three inches of water in 12 hours. It takes 16 moves to cover this ten acres.

With the land reclaimed, Shelton set out eight acres of apple orchard and seeded two acres of ladino clover and alta-fescue pasture. In order to get a cash return before the young trees were bearing, Shelton planted the young orchard to alfalfa and potatoes. He did leave a three-foot clear area around each young tree.

W. A. Morris has a 30-acre peach and apricot orchard a half-mile from the Columbia river at Rufus, Oregon. Conservatively priced, the orchard is

. . . . . (More on page 18)

Otto Rettig, Yakima, Washington, pumps water through an underground pipe to valves spaced six feet apart. The pipe line eliminates the need for ditches. It makes water go farther and helps reduce erosion. The valves make it easy to control the amount of water that enters each rill.

Cover Picture

Tom Shelton of Tieton, Washington, throws the switch which controls his 5 hp irrigation pump. The pump delivers 75 gallons per minute at a pressure of 30 lbs. Water is forced through 660 ft. of 4-inch main to a 3-inch lateral 660 ft. long.

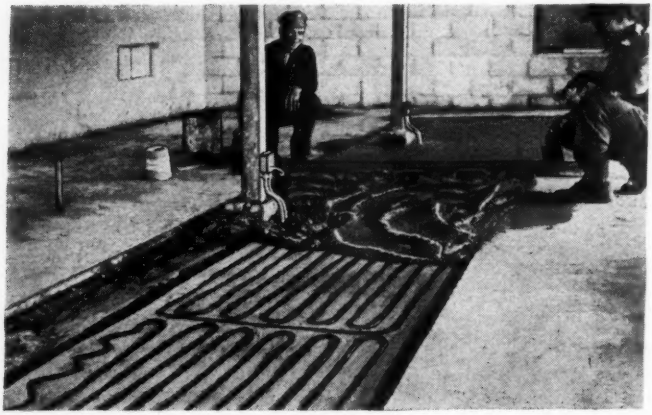
At 40 ft. intervals, on the lateral, 17 sprinkler heads are installed. Each sprinkler covers a 61 ft. circle and puts on 3 inches of water in 12 hours. Eight days are required to cover this 10 acre field.

Cable Heated Brooders are Practical

New Jersey Brooding System Uses as Little as ½ Kwhr Per Chick Per Brood

By W. C. KRUEGER†

Efficient poultrymen welcome developments that reduce equipment and operating costs. They like to save labor too. That explains the unusual interest shown in the floor-heat electric brooding installations in South Jersey. These have been developed by M. O. Whithed, Senior Rural Representative of the Atlantic City Electric Company.



Here the cable has been laid on the insulating base. The finishing layer of cement is being levelled off on top of the cable.

These electric under-floor brooders use soil heating cable as their source of heat. The cable is embedded in one part of the brooder house floor. A flat home-made hover covers the heated area. This conserves heat and provides protection for the chicks.

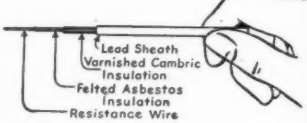
The cables are used in 120 foot lengths. They are operated on 230 volts. Each cable is laid to heat a floor area of 25 square feet. It provides about 32 watts per square foot of floor area and will take care of from 400 to 500 chicks. Two units are usually connected in parallel and controlled by one thermostat.

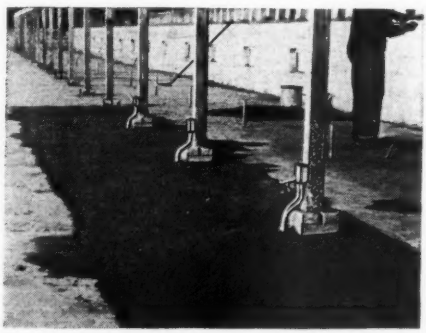
Here are the kind of results New Jersey poultrymen have been getting. James Entwistle, Jr. of Atsion has four units, each of which is 10 feet long and 2½ feet wide. They are installed end to end. Between April 15 and June 27 last year, Mr. Entwistle brooded 1670 chicks. Besides the brooders, five 30-watt room lights were used 12 hours a night for sixty days. Eight 7½ watt attraction bulbs under the brooders were on all the time. A ¼ hp ventilating fan operated for a total of 240 hours. Yet during this 73 day period, just 917 kwhrs were used. That's an average of about ½ kwhr per chick.

Arthur Phillips, Brewster Road, Minotola brooded 2000 chicks with four units. During the eight weeks from February 10th to April 8th he used 1336 kwhrs. This included 86 kwhrs for a two day preliminary test without chicks. Although the chicks were vaccinated during the brooding period, Mr. Phillips, an experienced poultryman, says, "The chicks looked better during and after the brooding period than any I have ever raised." Average energy per chick was about .6 kwhrs.

Can Be Used on Upper Floors

One of the first installations was on the farm of William Haskett, Jr., Woodstown. This proved so satisfactory that four additonal units were installed along the back of two 20′ x 20′ second floor pens. Each pen had a heated area three feet wide and twenty feet long. Here the concrete was placed over two layers of wood flooring with paper between. Brooding costs have been less than with the

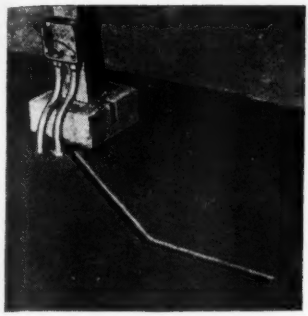




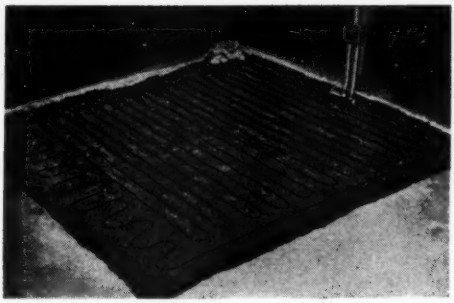
Above: This is the type of soil heating cable being used in these warm floor brooders.

Left: The finished brooder strip down the center of the house. Three units are shown. Note the junction box to house connections for each unit.

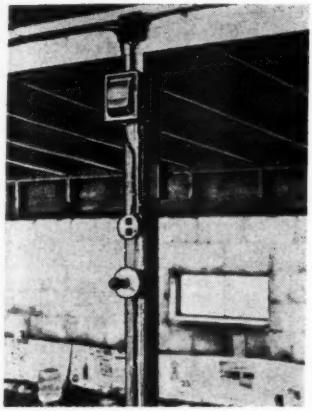
—†Mr. Krueger is Ext. Agr. Engineer, Rutgers University, New Brunswick, N. J.



Before the cement hardens, a channel is made to receive the thermostat bulb and tube.



In smaller brooder houses, a square shaped brooding area may be desired. Here, the cable has been rearranged for this purpose.



This is the control point for one unit. Non-metallic sheathed cable, along the joist, feeds the switch box on the upright. Just below this is a convenience outlet. On the right-hand side of the post is the thermostatic switch which controls the brooder unit. Current is supplied to the heating cable through the service lead running down the post. The light shown is a pilot light which indicates when the current is being used. A capillary tube also runs down the post connecting the thermostatic switch with its control bulb imbedded in the floor.

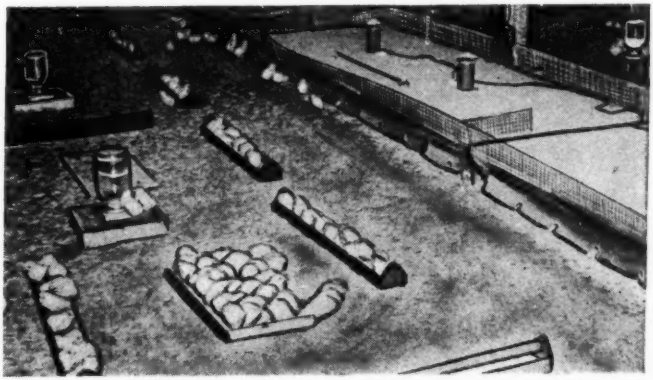
standard electric brooders previously used. Mr. Haskett says that he would never go back to the old brooding methods.

The success of under-floor brooders depends on proper installation. On ground floors, prepare a base of at least six inches of cinders. This should cover an area 11 feet x 3½ feet. The cinders should be leveled and well tamped. Lay vapor-proof building paper over the cinders. Cover the building paper with a 2½ inch layer of insulating concrete. This is made by mixing 8 parts of expanded mica to one of cement. Dip or paint the cable with acid and alkali resistant asphalt. Now, place the cable on the insulated slab spacing it 2½ inches between return bends. One cable will make six continuous loops (12 strands) lengthwise of the slab. The cable ends are brought up into a special moisture-proof sealing unit. An inch of standard mix finishing concrete, spread over the cable, completes the job.

The hover for each unit is 10 feet long and 2½ feet wide. It is a simple frame with insulation board on the under side. Two adjustable ventilating stacks are provided. A slotted curtain fastens around the edge of the hover. When the brooder is placed along the center of the brooder house, adjustable legs are usually used to support the hover. If the brooder is placed against the wall, the hover may be hinged to the wall.

The thermostat bulb, embedded in the floor, is set for a starting temperature of 100 degrees. The setting is gradually lowered at the rate of four or five degrees a week. The air temperature under the hover will be from five to seven degrees lower than the brooder floor temperature. No litter is used under the hover as this would interfere with heat radiation.

Removal of the hovers with this brooding system leaves the floor entirely free of all obstructions. This makes for easy brooder house clean-up and allows the building to be used for older birds too. At present prices the cost of a double unit, with thermostat, will run between $70 and $90.



Proof of the pudding is in the "heating." The chicks like it. Note the ventilating stacks, two for each hover. The wires on top of the hovers lead to a convenience outlet. They provide current for the attraction lights. Hovers do not extend to full width of heated area. This eliminates any moisture condensation at the hover's edge. All of these pictures were taken on Arthur Phillips' farm in Minatola.

Best Milk We Ever Produced

By E. J. GILDEHAUS†

Since men and women first started milking cows more than 6000 years ago, they have struggled with the problem of preserving its goodness. And the best way of preserving its goodness is by cooling it as rapidly as possible. Milk is one of our most nearly perfect foods. It is also one of the most perishable.

Besides being good food for humans, milk is a perfect medium in which to grow bacteria. And all you have to do to make them grow is to keep the milk at a warm temperature. But bacteria are not a profitable crop. They are one thing that dairymen cannot afford to grow. The best way to make sure that you don't, other than observing sanitary practices, is to see that the milk is cooled to a temperature below 50 degrees within an hour from the time it comes from the cow. And the best way to do this on the farm is with an electrically operated milk cooler.

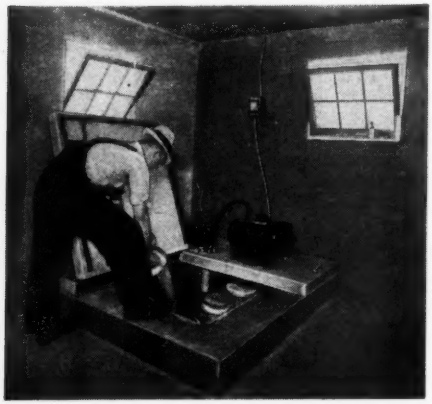
Electric milk coolers are relatively new. It is just about 25 years since they were first introduced. Some of these first coolers are still in use. The refrigeration principals involved are the same as those in today's modern milk coolers. However, there have been many improvements and many new types developed since the first one appeared.

As better refrigeration methods have been developed, regulations concerning the handling of milk have become stricter. Grade A milk is now known from coast to coast. The smaller towns now require the same high standards as many of the larger cities. This has resulted in a general up grading of the quality of milk wherever it is produced. And premiums are paid for low bacteria count milk.

For some markets well water or spring water is still satisfactory for cooling. The old concrete floor tanks are being used in many places. However, many of these have been modernized by the addition of a self-contained drop-in refrigeration unit. Although this enables them to do a better job, they are gradually being replaced by the standard cabinet type of cooler.

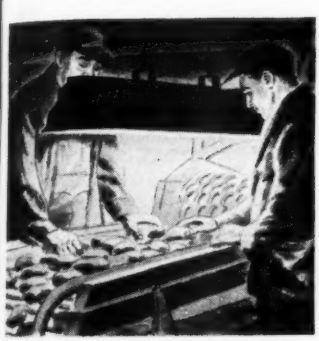
The most common type of milk cooler is a rectangular tank with refrigerated water as the cooling agent. The compressor is usually located on a section of the lid. It does a good cooling job. It will do a better job if the water is stirred. This has led to

†Mr. Gildehaus is Manager of Rural Service Division, Union Electric Company of Missouri.



Left: D. J. Huckie of Antonia, Mo., places a can in his six-can well type cooler. The water is cooled and agitated by a drop-in refrigeration unit. He milks 15 to 17 cows daily. **Lower Left:** Harold Meyer of Florissant, Mo., is shown with his 4-can wet type milk cooler which cools the milk from his 15 cow herd. He finds it a little small during the peak production season. **Lower Right:** George Huskey of Hillsboro, Mo., placing a can in his four-can side-opening cooler. The cans are cooled by a spray of cold water pumped from the lower part of the box. There is a ½ hp motor on compressor and a 1/6 hp motor on spray pump.

How to speed your jobs with General Electric fluorescent lamps



SPOT CULLS QUICKER, CUT WASTE

You can do a better job of grading—with less labor—under General Electric fluorescent lighting. Two 40-watt tubes give big spread of light.

CLEANING UP GOES A SIGHT FASTER

New G-E *slimline* fluorescent lamps on milk house ceiling give long, unbroken lines of light that let you see *deep* into milk cans. Instant starting.

FIX THINGS SO THEY STAY FIXED

Mount G-E fluorescent lamps over front edge of work bench for faster, better repairs. No working in your own shadow. Fixture above uses two 40-watt lamps.

Complete range of types and sizes to choose from . . .
40 watt tube only $1.05 plus tax.

FLUORESCENT LAMPS

FREE! FARM LIGHTING BOOKLET!

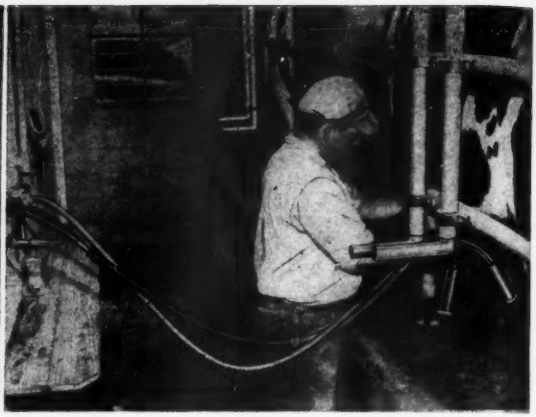
Free booklet "Light for Seeing on the Farm" gives valuable tips on how and where to use lamps and fixtures. Write for your copy to General Electric, Div. 166-EF-3, Nela Park, Cleveland 12, Ohio.

WHATEVER LAMPS YOU NEED . . .
INSIST ON G. E.

Standard model heat lamp . **$1.10**	4 bulbs in 1 pkg., 100-watt . . **64¢** Plus Tax
Projector-flood lamp . . . **$1.35** Plus Tax	60-watt lamp bulb . . . . . **14¢** Plus Tax

You can put your confidence in—

GENERAL ELECTRIC



Left: Joseph Voss, Washington, Mo., showing how the milk flows directly into the cans of his eight-can side-opening cooler. The hoses shown are attached to the milkers in the milking parlor on the other side of the wall. **Right:** Victor Voss adjusts teat cups in his modern milking parlor. This system enables two cows to be milked at the same time—udders only 3 ft. apart. The milk runs directly into refrigerated shipping cans in the milk refrigerator on the other side of the wall.

the development of various kinds of agitating equipment. These include: pumps, which spray the water on the cans; pumps, which introduce air that bubbles up through the water; propellers that stir the water; a double section cooler with a waterfall; an oscillating or rocking can rack. This last method provides agitation for both the water in the cooler and the milk in the can. It is very efficient.

In all of these types, however, the farmer has to lift the loaded milk can into the cooler. This has led to the development of can hoists. Hand operated, electric operated, and vacuum operated models are in use. But these can now be eliminated with the newest addition to the milk cooler line—the side-opening cooler.

Lifting Heavy Cans Eliminated

The job of lifting heavy milk cans in and out of coolers is responsible for the development of the new side opening milk coolers. In this type of cooler the milk cans are chilled by sprays of icy water. The water is pumped from a refrigerated reservoir. The cans are placed in position in the cooler through doors in the side of the cabinet. This eliminates the bulk of the lifting. In some of these side opening coolers the empty can is placed in the cooler and the milk is poured directly into it through an opening at the top of the cooler. The milk is cooled and aerated as it is poured into the cans. Water at a temperature of approximately 33 degrees keeps the cans cool. When a bucket of milk is poured into the can, it agitates the milk already there.

Cow to Can Cooling

This same type of cooler has also been used to provide cow to can cooling. Teamed up with a combine milker and a milking parlor, it has prompted the elimination of the milker pail. Perhaps we should say the substitution of the milk can for the milker pail because that is what it amounts to. The milker hose from the teat cups passes through the wall of the adjoining milk room and leads directly to the can in the cooler. The cans are connected together so that when one is filled the milk flows into the next, and so on.

Robert Keeven, of Florissant, Missouri, runs all milk over an aerator before bottling and storing in this walk-in type refrigerator. The milk is held at 54° until marketed. A one hp motor operates the compressor. The milk is obtained from a herd of 15 Holsteins.

Joseph Voss installed this type of system on his farm near Washington, Missouri, about a year ago. He likes the fact that he can walk out of his milk house just about the same time that the milkers stop operating, thanks to the reduction of clean-up time. What is more, since the milk goes directly from the cow to the cooler, it does not come in contact with the air, and it is cooled almost immediately. This reduces the bacteria content to a minimum.

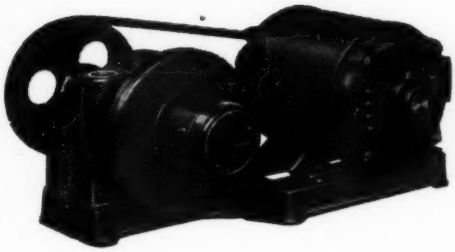
Mike Maczuk, of New Haven, Missouri, also uses this system. He says, "It is a labor saver. We are milking seventeen cows with one man completing the job in less than an hour. When the milking is done the milk is cold. It is far superior to any milk we have ever produced."

—I'm proud I am a farmer!—

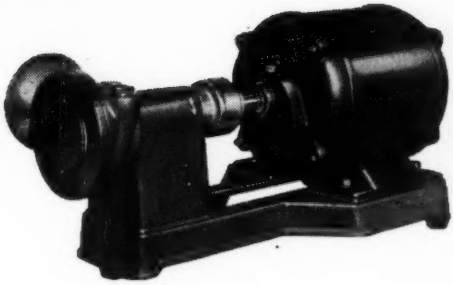
. . . . The grapevine brings us the story of the worried goose who made a trip to see a psychiatrist; found she was suffering from ILLUSIONS of gander. (Caw! Caw!) GOLD-DIGGERS: gals who break dates by GOING OUT with them . . . . SODDEN THOUGHT—NEVER underestimate a woman—UNLESS she asks you to guess her age . . . . SMALL TOWN: a place where everybody knows whose check is good and whose hubby ISN'T . . . . EVERSTOPTOTHINK?—ABSENCE may make the heart grow fonder but presents GET results . . . . OVERHEARD: "Say, I saw some fellow trying to kiss your gal last night." "Did he succeed?" "Nope." "Then it WASN'T my gal." . . . . WE know a gal WE can BEST describe THIS way—SHE doesn't think of men ALL the time, BUT when she THINKS, she THINKS of MEN . . . . FORTUNE TELLER: DUN and BRADSTREET . . . . BACHELOR: a fellow who takes to his HEELS when he loses his HEAD . . . . ENGAGEMENT RING—the LAST peal of the LIBERTY BELL SUGAR DADDY: a form of crystallized sap . . . . Love is SOMETHING like a mushroom. You NEVER know whether it's the REAL thing until it's TOO late. (QUOTE) . . . . SURPRISINGLY, the man with the HOE doesn't SEEM to get NEARLY as far as the man with the HOKUM . . . . WEDDING RING: a ONE MAN BAND . . . . "My auntie ate some chicken that DIDN'T agree with her." "Croquette?" "Nope, but she was darn sick." . . . . BACKBONE: that part of you that won't get you anywhere if the knob at the top is made of the SAME material . . . . CALLING ALL READERS ! ! ! You FINE FOLKS have been hearing from DUFFY for OVER five years and NOW—DUFFY wants to hear from YOU. HOW about sending a LETTER or a POST CARD and TELLING us YOUR favorite GAG, SNICKER, PUN, QUIP or JOKE. WE'D like to KNOW what YOU think is FUNNY, we'll use as many as possible and we'll give YOU credit IN PRINT as the SENDER. And of course, any comments you have will be greatly appreciated. DON'T WAIT! DO IT NOW! Just address 'em to DUFFY'S CAVERN, 112 RIVERVIEW DRIVE, OTTAWA, ILLINOIS . . . . . .

Your Pun-peddler,
DUFFY

YOU NEVER HAVE TO OIL THE NEW "SERIES 60" DE LAVAL MILKER PUMPS



Larger sizes are of V-Belt drive type. (Magnetic illustrated.)



Smaller sizes are direct motor drive. (Sterling illustrated.)

THE new "Series 60" De Laval Magnetic Speedway and Sterling Speedway Milker Pumps require no oil at any time. The new type rotor blades are self-lubricating and self-sealing against the cylinder wall of the pump. The bearings are of sealed design and factory-lubricated for life. Substantial savings result to the De Laval Milker user.

In addition, the design of the new "Series 60" Pulso-Pumps makes possible the use of low horsepower motors, resulting in lower power consumption and increased economy of operation.

The new "Series 60" Pumps start as freely in winter as in warm weather and maintain high efficiency at all times because there is no factor of too much or too little oil in the cylinder.

The new "Series 60" De Laval Milker Pumps represent another De Laval engineering advance . . . to provide the best, most dependable milking at lowest cost per milking. See your De Laval Dealer today for full information.

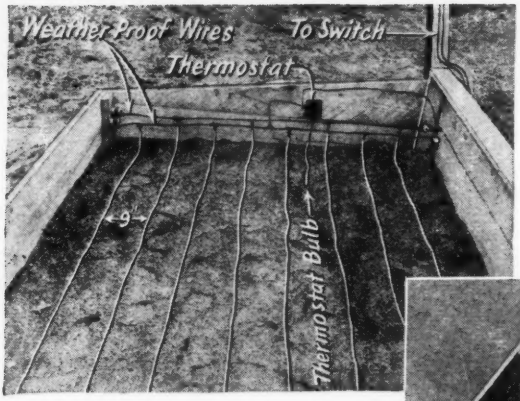
De Laval Magnetic Speedway Milker • De Laval Sterling Speedway Milker
De Laval Sterling Speedette Milker • De Laval Combine Milking Systems

De Laval

THE DE LAVAL SEPARATOR COMPANY
165 Broadway, New York 6, N. Y.
427 Randolph St., Chicago 6, Ill.
61 Beale St., San Francisco 5, Calif.

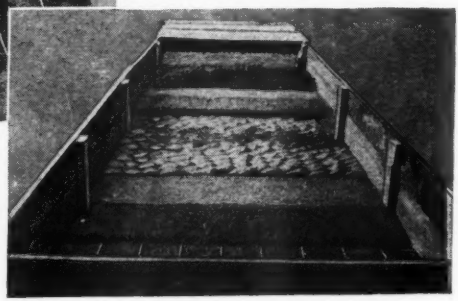
The De Laval Separator Co., Dept. Q-11
165 Broadway, New York 6, N. Y.
Please send me complete information on:
☐ Magnetic Speedway Milker ☐ Sterling Speedway Milker
☐ Sterling Speedette Milker ☐ Combine Milking Systems
☐ DeLaval "Series 60" Milker Pumps

Name.....
Town.....
R.F.D.....State.....



Left: Here the cable has been laid in the bottom of the hotbed. If the hotbed switch is exposed, it should be weatherproof.

Below: How the sweet potato hotbed is built up: There are five layers: 1. An inch of soil, 2. The potatoes, 3. A sprinkling of straw to hold potatoes when plants are pulled, 4. Another inch of soil, 5. About six inches of straw to protect the bed and conserve heat. This protective straw is removed as the plants begin to grow.



Sweet Potato Plant Propagation With Electric Heat

By G. H. STEWART†

The sweet potato is one of our staple foods. It is chock full of vitamins. Sweet potatoes are also fed to livestock. They have become one of the main crops, especially in the South. Early planting insures a good crop; therefore, hot beds for propagation are essential. Through the years sweet potatoes have been propagated principally in manure heated and flue heated hot beds. For about 15 years now, electricity has also been utilized for this job. Manure gives off its maximum heat at the beginning of the propagation period. This heat reduces with time and, therefore, a constant supply of heat cannot be depended upon. Flue heated beds have to be fired. It is practically impossible to control this heat. And too, they must be fired twenty-four hours a day. Electric heat is automatic. That's why South Carolina farmers like J. T. Lazar of Florence are switching from flue heated beds. Mr. Lazar likes the ease of operation and the small amount of labor required. B. B. Williams of Norway depends on his first pulling of plants in thirty days from the time he starts his beds. With any other type of hot bed, uncontrolled, he could not make definite plans for setting his first plants.

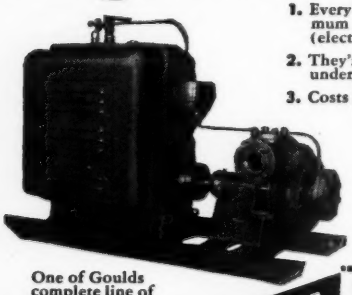
One of the most important factors in electric hot bed operation is the selection of a site for

†Mr. Stewart is Leader Agricultural Engineering Extension work, South Carolina Extension Service, Clemson College, Clemson, South Carolina.

Perfect for Irrigation

Farmers everywhere are saying "Goulds new Irrigation Pumps are ideal for dependable, profitable irrigation." Here's why they're your *best buy:*

1. Every unit is specially designed to deliver maximum amounts of water, at minimum power costs (electric or gasoline engines available).
2. They're built for heavy duty service . . . stand up under extra years of hard daily usage.
3. Costs are surprisingly low. Write us for proof.



One of Goulds complete line of Irrigation Pumps.

Rely on Goulds—the world's largest manufacturer of pumps exclusively—for *all* your pump requirements. Whatever your water service needs, there's a Goulds that will do the job best.

GOULDS irrigation systems

GOULDS PUMPS INC.,
Dept. E-29, Seneca Falls, N.Y.
Please send me a copy of Goulds Irrigation Pump Bulletin.

Name .....

Address .....

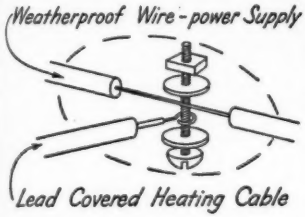
.....

the bed. This site should be on the south side of a building or on the south slope of a hill, protected from wind as much as possible.

The bed should be built at or above the ground level to insure good drainage.

Building the frame is the next step. It is good insurance to make this frame as air tight as possible, even in milder climates. Dig a ditch around the frame to provide good drainage, and use this ditch dirt to bank the frame around the outside. In colder climates this frame should be insulated.

Practically any size bed can be had, depending on the requirements. A 6′ by 6′ bed requires one 60′ length of cable. The 6′ by 12′ bed takes two 60′ lengths. Then a bed 6′ by 30′ requires four 60′ lengths of cable. Lead covered heating cable can also be secured in 120′ lengths. They operate on 230 volts. A 6′ by 60′ bed can be heated with four of these.



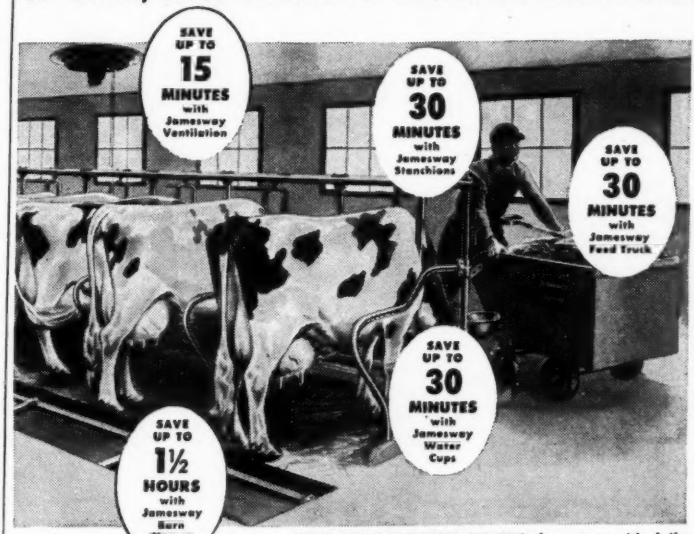
The heating wire will not make a good twisted connection. You will need to make a pressure connection between the cable ends and the weatherproof wire. A stovebolt, nut, and two washers will do. Loop the cable end around the bolt, as shown, and tighten the nut. Cut off the excess bolt end. Make sure the lead sheath is peeled back so that there is no possible contact between the current carrying wire and the lead. Then tape the wires within the dotted circle. Use rubber insulating tape first, running well back onto the wire insulation and onto the lead sheath. Then go over the whole area with friction tape. The finished, taped joint should be shellacked.

Let's discuss the 6′ by 30′ bed using four 60′ cables on 115 volts.

Prepare the bottom of the bed by simply leveling it off. Connect one end of a 60′ cable to the power supply weather proof wire. Take the cable down to the other end of the bed, loop

Save up to 3 Hours

OF HARD, BACK-BREAKING DRUDGERY EVERY DAY


SAVE UP TO 15 MINUTES with Jamesway Ventilation
SAVE UP TO 30 MINUTES with Jamesway Stanchions
SAVE UP TO 30 MINUTES with Jamesway Feed Truck
SAVE UP TO 30 MINUTES with Jamesway Water Cups
SAVE UP TO 1½ HOURS with Jamesway Barn Cleaner

NEW JAMESWAY BARN CLEANER does away with daily barn drudgery and saves time. Just flip the switch — it cleans your barn *cleaner*. Easy to install. Fits any gutter — any barn. No indoor pits or cross-gutters to collect filth. Exclusive shuttle action. No gutter chains or corner sprockets to wear out or break. Sturdy drive unit sets outside . . . saves valuable stall space. Ask your Jamesway dealer for a free demonstration. You'll see why the Jamesway Barn Cleaner is the leader.

ASK YOUR JAMESWAY DEALER FOR *FREE* PLANNING HELP BEFORE YOU BUILD, REMODEL OR EQUIP ANY FARM BUILDING

WHY put up with an old, inefficient barn that wastes steps, wastes time — makes you do everything the *hard way?* Drudgery is *expensive!* You can *free* yourself of hard back-breaking work. You can save up to 3 hours a day — with Jamesway. It's easy to modernize with Jamesway plans and equipment. Instead of working for your barn, *you'll make your barn work for you!* See your Jamesway dealer now. He'll be glad to show you how little it costs to modernize and equip your barn. He'll even sit down and work out a plan, *tailor-made for you.* Take advantage of this personal planning service now. There's no obligation. For free literature that tells you how you can save time with dairy cows, poultry or hogs, mail coupon today.

FREE! VALUABLE TIME-SAVING LITERATURE

Jamesway

REG. U.S. PAT. OFF.

FT. ATKINSON, WIS. ELMIRA, N. Y. LOS ANGELES, CALIF.

JAMESWAY, Dept. EF-351, Ft. Atkinson, Wis.

Please send literature on items checked. Tell me how to get FREE plans for my needs. I plan to build or remodel Dairy Barn ☐ Hog House ☐ Poultry House ☐

Name.....R. R. No.....

P. O.....State.....

World's Largest Makers of TIME-SAVING EQUIPMENT for Cows, Hens, Hogs

with **NEW**

F&W MULTI-PURPOSE WATER SYSTEM

If at any future time the water level drops in your location you can change this pump from shallow to deep well operation *at no extra cost,* by simply moving the jet off the pump and down into the well. And, by substituting a high pressure jet, you can use it on even deeper wells or get higher discharge pressures.

No matter whether you use this adaptable water system on deep or shallow wells — at high or regular pressures — you can be sure of quiet, dependable performance. Every Multi-Purpose is tested for pressure and capacity as are all F&W pumps.

In the complete line of F&W Centrifugal jet and piston models there's a water system to suit your needs. Send for helpful free book, "Running Water for Rural Homes."

F&W WATER SYSTEMS

FLINT & WALLING MFG. CO., INC.
395 Oak St., Kendallville, Indiana

it, and bring it back. Connect this end to the second wire supplying the current. The cable runs should be nine inches apart. Lay the other three cables the same way. Spread about one inch of soil over the cable. Then lay the potatoes. It will take about thirty-six bushels to fill a bed 6′ by 30′. A scattering of straw over the potatoes will help hold them down when the plants are pulled. Spread another inch of soil, or sand, over the potatoes. Over this sand or soil about six inches of straw or leaves can be placed to substitute for a cover until the plants begin to show. At this time the straw or leaves should be removed and a cover should be placed on top of the frame. Glass sash makes the best type of cover. A glass substitute can be used but it is not quite as durable. Muslin cloth dipped in linseed oil also makes a good cover. Covers should fit snugly. They should be placed on the top of the frame so they can be raised to allow ventilation on warm sunny days.

Thermostat Provides Desired Temperature Control

Of course, the beds must be thermostatically controlled. A temperature of 85 degrees is recommended. Four 60′ cables will draw approximately 15 amperes. Therefore, a 15 ampere thermostat should be used for this installation.

The thermostat is connected so as to disconnect the power supply from the wires feeding the cables when the soil temperature reaches 85° F. Therefore the thermostat should be installed in the circuit between the cables and a 30 ampere switch. This switch should be weather proof and mounted on a pole 6 feet above ground.

Connected to the thermostat is a bulb. This bulb should be placed in the bed between two runs of cable and on a level with the cable.

An average of 23 kilowatt hours per 1000 plants was consumed on fourteen farms in South Carolina. They produced 1780 plants, average per square yard.

These studies showed that electric heat is economical for the propagation of sweet potatoes. Similar tests in other parts of the country have proven that electric heat is economical for the propagation of other plants as well. In addition to being economical, electric heat is automatic. Therefore, it requires little attention. This saves labor. Electric heat also insures early plants.

Irrigation 5 HP Style

. . . . . (Here from page 9)

probably worth $1,000 an acre. Yet, a few years back, before there was water for irrigation, the sandy soil wouldn't grow anything except a little grass for grazing in the spring. And the whole 30 acres wouldn't have brought $100.

The orchard was set out before Morris bought the place. The previous owner had dug a 32-foot well and run a pump with an old automobile engine. It wasn't a satisfactory operation, because the outfit was over-powered and the automobile engine was costly and troublesome to run. So, a 3-hp electric motor was installed to replace the gasoline engine. This small pumping outfit delivered a limited flow. It didn't provide enough water to do a good job of irrigating. And it took too many man-hours.

When Morris bought the place in 1945, he put in a 5-hp electric motor to drive a centrifugal pump with a 6-inch suction and a 4-inch discharge. Water is lifted about six feet. The pump, which is 20 feet higher than the low elevation in the orchard, delivers a maximum of 400 gallons per minute.

An underground system of 1,200 feet of 6-inch and 4-inch

pipe carries water from the pump through the orchard. There are valves in the pipe line at each tree row. Water flows from the valves down the tree rows in 200-foot rills. Each rill irrigates ten trees.

Morris irrigates the orchard continuously from about the first of June until the fruit is off the trees late in August. It takes two weeks of irrigation to get over the orchard.

Four Cuttings Instead of One

Albert G. Bunn, RFD 4, The Dalles, Oregon, has 12 acres of heavy clay loam soil. It was once an old lake bottom. There was only enough rain for one good stand of alfalfa and a skimpy second cutting.

Bunn dug out a spring on the place to make a pond 30 feet wide, 60 feet long and five feet deep. He bought an electric motor and pump and started irrigating. Four acres, still in alfalfa, now yield four good cuttings each year. The remaining eight acres are rotated, half in tomatoes and half in cover crop.

Bunn has put his own ideas in this rill-type irrigation system. He lifts water about seven feet from the pond with a 2-inch centrifugal pump. It is driven by a 5-hp electric motor. Because his water needs vary, he changes the pulley size on the motor to get either 120 gallons per minute, or 60 gallons per minute from the pump.

The pump is at a high point on the land, so that water is carried by gravity in a portable line made from 20-foot sections of quick-coupling 3-inch pipe. He bored ⅝-inch holes in the pipe to match spacing of 450-foot long rills. Instead of using valves in the pipe, Bunn regulates water with plugs made from old-fashioned clothes pins. A wood wedge placed in the clothes pin fork regulates the flow from the ⅝-inch opening. Pushed clear in, the base of the clothes pin closes the hole and shuts off the water. Bunn has found the clothes pin plugs are easier and less expensive to replace than are metal valves damaged in pipe moving and hauling.

Electric pumping may increase the value of your crops.

THE VICTOR QUICKFREEZE IS HEADLINE NEWS TODAY!

BECAUSE . . . Only the Victor Quickfreeze (as illustrated) offers you all these features to make your work easier:

AUTOMATIC LID: When your hands are full, a light touch of the hand, elbow or hip releases the catch so the lid automatically rises to the desired height.

NO REACHING OR STRETCHING: The high level food storage compartment allows the average housewife to reach the bottom of the compartment easily.

PASSES THROUGH NORMAL SIZED DOOR: Flush type hardware and concealed counterbalancing mechanism eliminates the necessity of taking cabinet apart to move it through narrow doorways.

FOOD SPOILAGE PROTECTION PLAN: Assures against food losses due to mechanical failure or other causes beyond control of owner.

FIVE YEAR MECHANICAL WARRANTY • ADJUSTABLE STORAGE COMPARTMENTS • SEPARATE FREEZING COMPARTMENT • AUTOMATIC INTERIOR LIGHT • QUIET, SEALED MECHANISM • FULLY COUNTERBALANCED LID

A Size for Every Home, 7½ to 30 Cubic Foot Capacity.

COMPARE critically and you'll buy the VICTOR QUICKFREEZE

Reduce food bills • Lighten kitchen work • Will pay for itself in food savings
Beautiful, Efficient and Reasonable

Victor

PRODUCTS CORPORATION • HAGERSTOWN, MD.

One of the World's largest manufacturers of Freezers and Commercial Refrigeration

But, no two pumping installations are alike. It will pay you to take your irrigation problem to your county agent or your soil conservation district supervisor. Your electric service company farm engineers will also give you advice including the type and size of motor you should install. Your pump dealer will help you figure your requirements and recommend equipment best suited for the job.

Leafy Vegetable Plant Waste Makes Good Feed

Truck farmers and vegetable processors can convert leafy plant waste to high quality feed stock with rotary driers. This type is commonly used for drying alfalfa.

Engineers of the Bureau of Agricultural and Industrial Chemistry, U. S. Department of Agriculture, have been working on this problem for sometime. This new development and research to find worthwhile uses for vegetable waste follows earlier work at the Bureau's eastern regional research laboratory near Philadelphia, Pennsylvania. At this laboratory, a moderate temperature belt-type drier was used. Now, the technical problems have been solved so that these vegetable wastes can be dried by the high temperature alfalfa driers. The cost is less per ton of water evaporated and they are already in widespread use for processing farm grown material.

The leafy parts of many vegetables are rich in carotene (vitamin A) and protein. These are the essential ingredients for a well balanced livestock feed. Feeding tests by U.S.D.A. and other agencies have demonstrated the effectiveness of leaf meals from vegetable wastes.

Equivalent of Alfalfa Meal

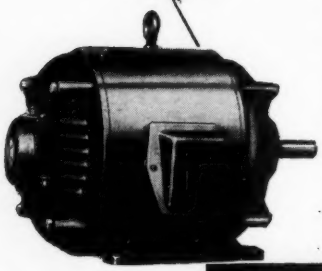
Satisfactory leaf meals have been produced with the rotary driers from pea vines, lima-bean vines, broccoli and spinach leaves, and beet tops. The carotene and protein content of these meals equals, or in some cases exceeds, the normal guaranteed minimum of commercial alfalfa meals. These specify a carotene content of 133 parts per million and a protein content of 17 per cent.

The procedure involved first, chopping the freshly gathered vegetable wastes in a forage cutter. They were then subjected to direct heat in the rotary drier. Drying time and temperature are regulated so that the center part of the leaves dry thoroughly and become brittle, while the stems remain fairly moist.

Fan Shatters Leaves

As the material is conveyed by a stream of air through fans in the drier, the brittle leaf blade portion crumbles from the stems. Blade and stem fractions are later separated by screening. The dried leaf blade material, which is the most nutritious part of the leaves, can be ground in a hammer mill if desired, before its incorporation into mixed feed. The partially dried stems may be accumulated and dried more thoroughly at the end of each day's operation. Stems, notably in broccoli, contain enough protein to justify drying.

Save Hours of Time and Work With Equipment Driven by Century Motors



You can get your chores done faster, easier and better when you let Century electric motors do much of the hard labor. In growing seasons, that means more time for jobs that make you money. In slack seasons, it means more time for relaxation.

Be sure you get Century motors on your water systems, milking machines, barn cleaners, wood saws, tool grinders, grain elevators, hammer mills, washing machines, hay dryers, refrigeration equipment, ensilage cutters and other farm labor-saving machines.

Century Electric Company is celebrating its 50th year in the electrical industry.

699

Century repulsion start induction, brush lifting single phase motor.

CENTURY ELECTRIC COMPANY
1806 Pine Street · St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

Century C MOTORS

for Junior Partners

Hi

Town meeting time is here. These annual meetings have changed but little since our country was first started. They are government in action. Have you ever been to one? If you haven't, ask the folks to take you with them when they go this year.

There, you may wonder at the strength of our Republic. It all seems so simple. You know almost everyone there. Every day problems are talked over. Plans are made. It's just like a family talking over plans for next season and deciding what they'll do. There are usually differences of opinion—even a few arguments. But, when the meeting is over the people have decided what is best for the community. What's more, they have determined how it will be accomplished, who will see that it's done, and how it will be paid for.

That's because we, in this country, are the government. The very simplicity of our Republic is the source of its strength. There is no central power which dictates our laws. True, we seem to look to Washington for more and more as time goes on. But we are the ones who determine how much that will be. Anything that Washington can do for us is that for which we have given our consent. And if enough of us don't like it, we can take back that consent.

To govern ourselves is a privilege. It is also an obligation. You will be taking a part in government before too long. You have already been alloted a large share of its cost. Better go and get the feel of the reins. They'll be in your hands soon.

Kenneth V Anderson

Champion Sheep Shearer

Robert (Bob) Wilson, of Sugar Grove, North Carolina, was the 1950 National 4H Sheep Shearing Contest winner. He just nosed out Ben Norris of Reese, North Carolina. And last year's winner was Clint Reese of Reese, North Carolina. That is two winners and one runner up in two years from one county. W. C. Richardson, county extension agent for Wautauga County, North Carolina, is justly proud of his boys. That is some record! Do you suppose they will repeat in 1951?

Bob Wilson is a tall quiet spoken 4H'er who has been active in club work for 10 years. During that time his club projects have earned him a total of $1,634.50. He has now added the $200.00 college scholarship provided, for the winner of the shearing contest, by the Sunbeam Corporation, sponsor for the contest.

The new champ has just gotten married, and he lives on his Dad's 106 acre farm. Bob not only shears the twenty-five sheep on his Dad's farm but he also shears for his neighbors. He has been doing this for 3 years now. Bob enjoys working with sheep.

Here's champion Bob Wilson in action

DON'T ASK FOR PLIERS ... ASK FOR

CHANNELLOCK

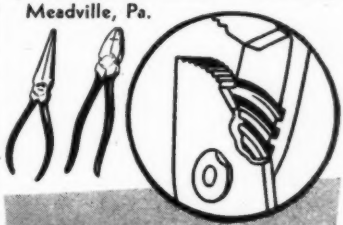
Made only by CHAMPION DeARMENT

Channellock pliers are listed in the Yellow Pages of most Telephone Directories under "Tools"

There are lots of jobs on the modern farm requiring the use of pliers... and when pliers are used ... you need Channellock. Channellock pliers are versatile, easily adjusted and longer wearing. Channellock pliers are made Only by Champion DeArment ... for more than 65 years makers of highest quality tools. The next time you buy tools don't ask for ordinary pliers ... Ask for Channellock and get the best. Send for Catalog D-16 today.

CHAMPION DeARMENT TOOL CO.

Meadville, Pa.



ONLY CHAMPION DeARMENT MAKES...

CHANNELLOCK

VOGEL
A PATENTED

FROST-PROOF HYDRANT

- Will never freeze when properly installed.
- Running water available all year 'round.
- Reduces fire hazard.
- Increases operating efficiency.
- Over a million Vogel Frost-Proof Closets and Hydrants have been sold.

The handle in this position shows you that the water is positively shut off. A leaking hydrant is sure to freeze in winter.

For information, see your nearest Plumbing Supply House—or if you write us direct, state the county in which you are located.

JOSEPH A. VOGEL CO. WILMINGTON 99 DELAWARE

It's Easy TO PASS INSPECTION

with the NEW 1951 **SAFGARD** ELECTRIC WATER HEATER!

—It supplies plenty of economical hot water, makes "washing up" a faster and easier job. No other portable heater equals the durability and convenience of the new SafGard.

Check these advanced features!

- FULLY-WELDED COPPER TANK—15 and 20 gallon models.
- "SNAP-ACTION" THERMOSTAT—quickly adjustable to desired temperature.
- "WRAP-AROUND" HEATING ELEMENT—absolutely corrosion-proof.
- FULLY GUARANTEED FOR 10 YEARS

Send for illustrated circular and prices. Also details on the SafGard Stainless Steel Wash Tank!

Underwriters Laboratories Approved

SAFGARD DIVISION
Grand Sheet Metal Products Co.
Dept. 3-E, 2505 W. 24th St., Chicago 8, Ill.

Please send FREE circular and prices on the SafGard Water Heater and Stainless Steel Wash Tank.

Name.....

Address.....

City.....State.....

He says that his experiences in handling and shearing sheep has been both educational and pleasant. "It is something that cannot be estimated in dollars and cents," he said.

Perhaps *you* would like to start on a shearing project. If possible, you should attend a shearing school. Or you can work with an experienced shearer. Get as much practice as possible. You will learn the proper manner of holding sheep while shearing. How to correctly handle the shearing machine. How to tie fleeces properly. How to increase the market value of the wool clipped, by obtaining all the wool and avoiding second cuts. You will also learn the value of tagging ewes.

Within six weeks of lambing time, it is important that the ewes be tagged. This practice will reduce lamb loss considerably. The first milk or "colostrum" has special properties which help the lamb to survive. Removing the obstacles makes it possible for the lamb to get this feed of warm milk the first time it attempts to nurse. It will not

. . . . . (More on page 31)

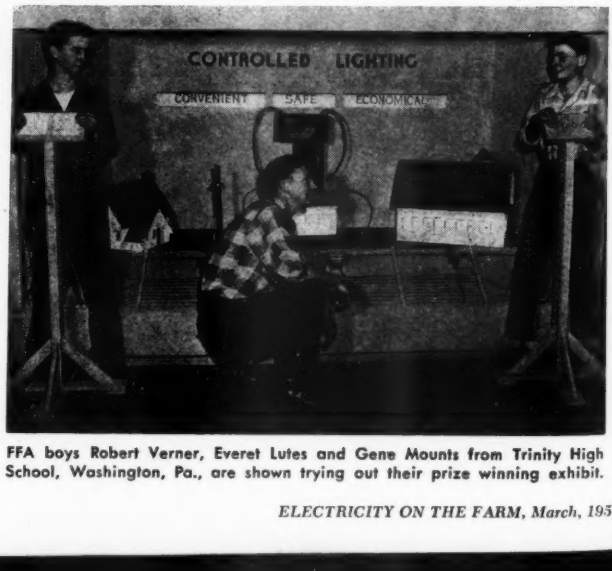
Winning Lighting Demonstration

By **PROF. D. C. SPRAGUE**

One of the largest farm shows in the country is the Pennsylvania Farm Show, held at Harrisburg, in January. This year they held their 35th. Exhibits, contest, demonstrations, and more equipment than you could shake a stick at—fill the buildings to overflowing. More than half a million people, mostly farmers, attend these shows each year.

FFA boys, FHA Girls, and 4-H'ers take an active part in the exhibits at the show. This year Trinity Joint High School, of Washington County, Pennsylvania, took two first prizes. Their FHA demonstration featured "New Lamps for Old". Their FFA chapter received first prize for their vocational agricultural window exhibit, entitled "Controlled Lighting." This exhibit also received a special award from the Pennsylvania Electric Association. It was the highest placing exhibit which pertained to the use of electricity.

The exhibit consisted of miniature farm buildings, with electric lights installed in each. There was also a light on a miniature yard pole. Two panels of push buttons were provided for visitors to press. Each light



FFA boys Robert Verner, Everet Lutes and Gene Mounts from Trinity High School, Washington, Pa., are shown trying out their prize winning exhibit.

as controlled by a button in ach panel. These were wired so at any one of the lights could e turned off or on by pressing e right button. All wires and elay switches were exposed so hat persons operating the push uttons could easily trace the ircuit.

The operation of the relay witches was shown by a large odel. These relays require the se of a small transformer to upply low voltage current to perate the relay switches. This ow voltage current (24 volts) an be safely carried by small ires. It can be controlled by inexpensive push button switches.

The 115 volt current supplying the light passes through the relay switch only. It is not connected to the push button control circuit. If ordinary switches were used, it would be necessary to carry heavy conductors to all control points. That is because the switch carries the current which feeds the light. Where relays are used, push-buttons carry just enough voltage to operate an electro magnet. This results in an appreciable saving in wire alone. And the more points from which any light is controlled, the greater the saving.

What actually happens when one of the push buttons is pressed is this. The low voltage current flows through the small wires to the electro magnet in the relay. This magnet either opens or closes the switch which carries the 115 volt current to the light. Only one relay is required for each light. However, there may be push buttons at many different points, each of which can operate the same relay.

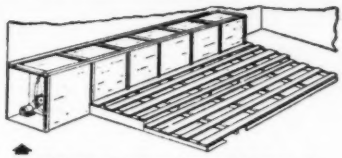
The control of light is but one of the practical uses for relays. They are quite commonly used to control electric motors or heating appliances. Because of the saving in wire needed, they make the remote control of equipment practical. Relays also make it possible to control equipment, such as a large motor, with a thermostat or other device which can carry only a small current. Relays are made for specific applications and should always be used according to the manufacturers' recommendations.

Hartzell barn curing means . . .
Increased Hay Value

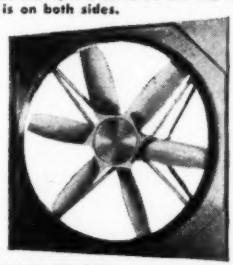
High feed value, higher market price, insurance against rain damage in the field and spontaneous combustion in the mow — those are just some of the *extra profits* you gain when you install a Hartzell system for curing hay in the mow.

Hartzell agricultural fans have been especially developed for farm use. Light weight, yet sturdy; cannot overload the motor; low power cost; famous exclusive curved orifice air-seal ring gives more air movement. And the motor can be used for other farm jobs.

Write today for your *free* booklet showing installation photos, sketches, diagrams and other data.



A widely-used system for hay drying. In narrow mows the air-tunnel is at one side; in wide mows, it is centered and the slatted floor is on both sides.

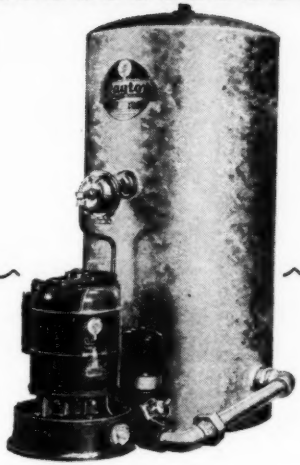


Note the sturdy construction of the Hartzell fan. Built for rugged farm use—for operation year after year without attention.

DEALER AND REPRESENTATIVE INQUIRIES INVITED

HARTZELL PROPELLER FAN CO.
DIVISION OF EASTER MILLS CORPORATION
DEPT. M, AGRICULTURAL DIVISION, PIQUA, OHIO

You get so much for so little with a RAPIDAYTON Jet Pump!



You can have the priceless privilege of water under pressure in kitchen, bath, garden, lawn or barn with a RAPIDAYTON. Best of all, you can have it at low cost. There's a complete new line of RAPIDAYTON Jet Pumps for both shallow and deep wells. All are dependable and fully guaranteed. See your dealer and mail coupon, TODAY!

THE DAYTON PUMP & MFG. COMPANY
Dept. EF-351, 500 Webster St., Dayton 1, Ohio
Please send me complete details on RAPIDAYTON Jet Pumps.

Name .....
St. or RFD.....
Post Office .....
State .....

Electrical Housekeeping

Edited by NAN SHAW, 329 Memorial Union, Ames, Iowa

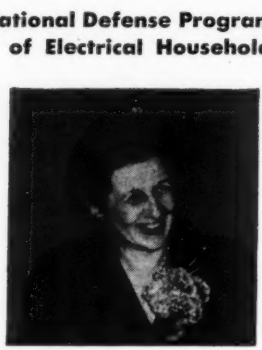
New Equipment, Defense and You

How Our National Defense Program Will Affect the Supply of Electrical Household Equipment

Each year the equipment manufacturers introduce their new models at trade shows in Chicago. These are held in January and I usually make it a point to be there.

Now, with the country setting up its defense production schedule, many wonder what's ahead in the way of equipment for homemakers. Here is the outlook for '51 as I viewed it at the January shows:

Manufacturers are introducing new patterns, new styles and new colors. These may be the last, however, for some time. It takes a lot of man hours to redesign and retool for new style lines. To keep production up and make best use of available labor, we can expect few new model changes. About 25% of



Nan Shaw, our Housekeeping Editor says "The new models have the finest improvements yet."

the manufacturers have shortened their lines already. More are expected to do so by June due to restrictions of metals and probable labor shortages. However, equipment items available today have the finest improvements yet! Efficient operation with simplified servicing and maintenance requirements are assured.

RANGES – Divided surface cooking tops are more common than at anytime since 1940. Some manufacturers are offering models with two full sized ovens and six surface units. More look-in oven doors are being displayed. One manufacturer calls his a "picture-window" because of its size. It gives a view of both the top and bottom oven racks. Another manufacturer offers a special fiber glass gasket around the oven door. This silences the closing of the door and reduces the heat spread around it.

All top flight manufacturers

Left: New Double oven range has added pre-heating speed in both oven and surface cooking units. High speed surface unit will scramble eggs in two minutes. Completely automatic oven operation is provided. **Right:** Colored push-button controls, easily identified from across the room, are placed so they can be used without reaching over hot cooking utensils. Automatic timer, for oven, can be used for plug-in appliances.

are offering one instant-heat unit on most of their range models. There has been a movement to raise lamps on ranges so as to spread the light to the front of the range top and down into cooking utensils.

You'll hear dealers referring more to *titanium* range tops. That means greater resistance to harsh treatment and food drippings.

One manufacturer has added a safety feature of special interest to homemakers with small children and forgetful family members. This is a safety lock switch. In locked position it prevents any heat from being switched on for oven or surface cooking use. Another manufacturer has a glass shield between the broiling coils and the food being broiled. This prevents fat and grease spatters from contacting the red-hot coils. Also saves oven cleaning time.

Clocks are being designed with larger dials and numbers and simplified setting directions for automatic use. This will be

Six surface units, three of them giant size, make this double-oven range the kind Paul Bunyan was looking for. Note the windows. You can see what's cookin'!

good news to home-makers with glasses, particularly bi-focals.

Raise-up units for use with well cookers are an accepted must by most range manufacturers today. Some of those who did not offer such units a year ago now have them.

REFRIGERATORS — Very few noticeable changes in refrigerators. Automatic defrosting is quite common. Racks are appearing with plastic coating in some lines. Plastic trays, containers, and gaskets are reappearing. Probably the most noticeable feature is the use of pastel color on the interior of refrigerators and freezers, particularly around facing of interior where door or cover opens.

DISHWASHERS — There are more manufacturers of front opening dishwashers on the market this year than ever before. They have free standing models to slide under a counter top as well as combination units. Most noticeable changes are: attempts

This range has a "Saftee" master switch. In "off" position, it cuts off current to all units on the range.

to hold water temperature or boost it at machine intake; auxiliary heat for faster drying of dishes; simplified connections for less expensive installation of dishwasher to plumbing in old sink.

WASHERS—Nothing drastically new or changed. Some minor refinements have been added. There have been heavy demands for washers and manufacturers' deliveries are expected to be the same as in the last half of '50. Service men in small towns will be gradually attracted away to jobs offering increased wages. Farm families will want to consider the need for adequate local service as well as good year round water supply before making purchase decision for an automatic washer.

CLOTHES DRYERS—About the same as in '50 except for one manufacturer who is producing one with a water spray to reduce room heat, moisture and lint. There are now 15 mfrs. as compared to 3 in 1941.

WATER HEATERS — More round than square water heaters

Here is a big little range for small kitchens. Although it's just 30" wide, it has an oversize oven. It can bake 8 pies or 8 loaves of bread at one time.

will be the style *run* for '51.

RADIOS & TELEVISION SETS—General production has now been cut about 15%. Hard woods are in good supply so console models will be plentiful. Cords have been shortened and wire sizes reduced to economize on copper. However, this has not been enough to interfere with quality operation of sets.

ELECTRICAL HOUSEWARES—There is no indication at present of any production line of appliances being stopped. However, if copper and nickel shortages get acute you may expect the luxury type articles to be removed from production for short periods. For example, such things as grills, waffle makers, drink mixers, etc. Cord sets and plastic parts for new electrical housewares are on the short side.

LAMPS—The metal shortages are affecting lamp manufacturers more than any other group. Some manufacturers are already discontinuing those items which require much steel. More ceramics will be used in an attempt to keep a number of items in the lower price fields. Brass and cop-

FARM MOTHER STRICKEN WITH UNDULANT FEVER

Hospitalized three times within year

"I am lying in bed writing this letter—just arrived home after my third stay in the hospital in less than a year due to Undulant Fever. It is a terrible disease, causing pain and discomfort, weakness, nervousness and depression. My two small children don't know what it means to have a mother that is well and able to do for them. My advice to all farmers is—pasteurize your milk before you become a victim."

(Signed) Mrs. Robert I. Smith

BE SAFE—Pasteurize Milk at Home

Your doctor will tell you that raw milk may contain the disease organisms that cause not only undulant fever, but also septic sore throat, typhoid fever, scarlet fever and even dreaded polio. Milk MUST be pasteurized to make it safe. It's easy to do with the HOME HEALTH unit. Automatic . . . laboratory tested . . . guaranteed.

FREE

Write for free Milk Folder giving facts on milk borne diseases.

WATERS CONLEY CO.
DEPT. "E"
Rochester, Minn.

HOME HEALTH

MILK & CREAM PASTEURIZER

DRY CROPS QUICKLY!

WITH *American*

VANE-AXIAL FAN

• SEEDS • GRAINS • HAY
• ALL FARM CROPS

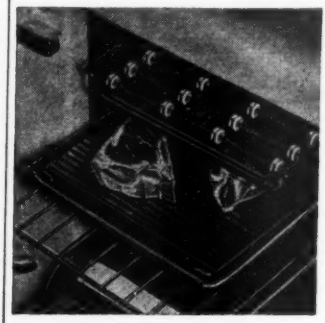
PLANNING A MOW HAY DRYER? It will pay you to investigate the American Fan . . . the most complete, most useful crop ventilating fan on the market. Write for details.

American CROP DRYING EQ. CO.
CRYSTAL LAKE, ILLINOIS

per, fittings for lamp assemblies are critically short.

NEW ITEMS

Dual purpose combination refrigerator-range can now be had for small tenant houses or apartments. It has passed the Underwriters' Laboratories tests. The 4 cubic foot refrigerator is beneath the 3 surface cooking units. It requires floor space of 23 by 27½ inches. This could be a serviceable unit for many com-



A tempered glass shield protects broiling coils in this oven from fat and grease spatters. This saves on oven cleaning time.

munity and church kitchens. Note there is no oven. This could be supplied by a roaster.

Bathroom fixtures are now being offered in compact combination sink-dressing table units. They may be had in plain white or combinations of colors, and are about 3 feet long. These units have a sealed in basin, work surface, storage space, and knee-room below.

Kitchen cabinets—A number of wood kitchen cabinets are appearing in natural finish with iron hardware. All kitchen cabinet manufacturers are producing at this time. One manufacturer has brought out wall cabinets with doors which swing up rather than out as they are opened.

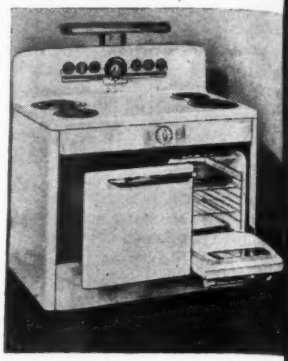
GENERAL NEWS

Retail prices up 15% since June.

Labor costs up 10 to 15%.

Consumer demand equals that of 6 to 12 months ago.

Shipping containers—Both of cardboard and lumber are in very short supply to manufacturers. This will affect transportation. It can affect the quality of products received. One equip-



A look-in door to an oven with lighted white interior. Do all the peeking you like without loss of precious heat. The lamp is adjustable and can be raised to a height to light up cooking in deep pans.

ment manufacturer has set up a small saw mill to produce rough soft lumber for needed crating. Packaging materials which could be expected in two weeks 6 months ago now take 30 to 60 days. Prices have risen on some containers 60%.

Deliveries—Many manufacturers of equipment are not taking on new dealers. They are taking orders now on a 30 to 90 day delivery basis and some deliveries will take six months. This does not vary much from normal years because immediate deliveries are seldom promised.

Production — Limitations of steel and cobalt will, after first quarter, seriously affect production schedules.

How to Refinish A Refrigerator Door

Has your refrigerator door finish worn thin in spots? If the worn spot is confined to a small area around the handle or one edge, a decorative band can be worked out. It can match the trim in the kitchen and at the same time cover the worn spot. Here's how to do it:

Mark a band, from three to four inches wide, across the top and down the handle side. Use a pencil and yardstick. Or better still, outline the band to be

MONEY FOR LETTERS That Help Readers

Where is your most useful electric convenience outlet located in your house? How do you use it? That is what we'd like to hear about in your March letters.

This year, with labor shortages, we'll all need to exchange ideas on how best to use wired help. Maybe your letter will be just the inspiration that a farm neighbor in another state has been in need of.

For the letter we think most helpful in pointing out a labor saving use to our readers we will pay $10. Any other letters or parts of letters which we print will be paid for at regular space rates.

Send your letter to Nan Shaw, Housekeeping Editor, ELECTRICITY ON THE FARM, 329 Memorial Union, Ames, Iowa. It must reach her by March 31. Letters to be published will be announced in the June issue.

painted with masking tape.

Sandpaper this area with No. 00 sandpaper. Then wipe off dust with a clean, dry cloth.

With a two-inch brush apply any good grade of enamel to match the kitchen trim. Only one coat is needed. If the trim is a light, off-white shade, oil colors can be added to white enamel to get the proper shade.

Sometimes the whole door may need to be refinished. In this case, sandpaper the entire surface with No. 00 sandpaper. You may not be able to match the white on your refrigerator

"Since electricity is savin' me so much money we're livin' higher up on th' hog."

Why not own the best?

NEW SINGER

as low as $89.50

Budget terms

Liberal trade-in allowance

You can own the world's finest sewing machine, a brand-new SINGER* Electric Sewing Machine, for only $89.50. That's the price of the smooth-stitching portable shown above. Many fine cabinet models, too, in a wide range of styles and prices. Choose yours now. You can depend on it for a lifetime of sewing happiness.

SINGER SEWING CENTERS

For address nearest you, look in phone directory under SINGER SEWING MACHINE COMPANY

Copyright, U. S. A., 1949, 1950 and 1951, by THE SINGER MANUFACTURING COMPANY. All rights reserved for all countries. *A Trade Mark of THE SINGER MANUFACTURING COMPANY.

SEND FOR FREE BOOKLET

Illustrating latest models. 16 pages in full color.

SINGER SEWING MACHINE COMPANY
Department EF-3
95 Liberty St., New York 6, N. Y.

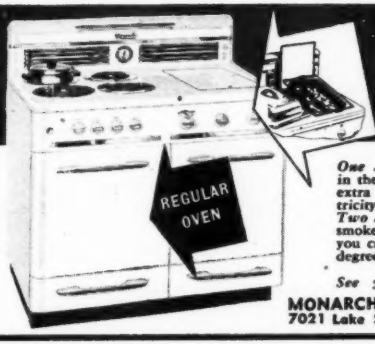
Please send me free booklet illustrating latest SINGER Machines, and include address of my nearest SINGER SEWING CENTER.

Name_____

Address_____

_____

S *For your protection,* SINGER sells and services its Sewing Machines only through SINGER SEWING CENTERS.



Only Monarch has these 2 ovens!

One . . . . a roaster oven built right in the top of your Electric Range. This extra oven saves stooping, saves electricity. (Flush with top when closed.) *Two* . . . . extra-large regular oven with smokeless broiler. Using both ovens, you can bake and roast at two different degrees of heat at the same time!

See your Monarch dealer or write

MONARCH MALLEABLE RANGE CO.
7021 Lake Street Beaver Dam, Wis.

exactly. However, the door is a large enough panel so that a slight difference will not be objectionable. Use any good grade of white enamel.

Cake pans should be filled only about two-thirds full, as cake batter rises as it bakes. Place pans as near center of the oven as possible, but not so close together as to interfere with circulation of heat. Test cakes by sticking toothpick in center; if it comes out clean, the cake is done.

MOST POWERFUL 6" ELECTRIC SAW YOU CAN BUY!

6" Heavy-Duty LECTRO-SAW only $56.50

Cuts to 2" depth

Crosscutting

Cutting Tile, Transite, Slate

Ripping

Angle Cutting

Saves Time, Money in Building, Altering

HERE'S PROOF: The 6" Heavy-Duty LECTRO-SAW so outclasses other 6" saws that we matched it against two competitive *8" electric saws* in a mechanically-controlled speed ripping test. The other saws cost *$30 more.* Yet LECTRO-SAW matched the speed and power of one and conclusively beat the other!

RESULT: The LECTRO - SAW speeds up general carpentry, home construction and alterations, farm building and maintenance. Ten times faster than hand sawing. Power, speed and ease of handling almost unbelievable in a low-priced Saw!

REMEMBER: LECTRO-SAWS are quality-built by BLACK & DECKER, world's largest Portable Electric Tool maker. So you can count on them for long service. See one demonstrated today at your hardware, building, electrical or implement dealer!

Products of HOME-UTILITY Div., The BLACK & DECKER Mfg. Co., Dept. H3G, Towson 4, Maryland

Professional Saws at Popular Prices

ELECTRIC LECTRO-SAW SAWS

Also 8" Heavy-Duty LECTRO-SAW $92.50
Cuts to 2 13/16" depth

The Secret of White Laundry

Good washings depend on proper preparation of clothes, proper loading of the washer and proper attention to water conditions and soap or detergent.

If your clothes aren't as white as you'd like, check these points:

(1) Do you give clothes the right pre-treatment before putting them in the washer?

Heavily-soiled parts like shirt collars and cuffs and the knees and seats of children's overalls should be dipped in warm water. If desired, add a little bleach to the water. Soap the soiled spots and scrub lightly with a small nail brush. If you are going to use a synthetic detergent in your washing machine use it instead of soap for the scrubbing.

Soiled handkerchiefs will come out sparkling-clean if you soak them first. Place them in a porcelain pan and cover them with water to which ⅓ cup of soap and 2 tablespoons of bleach have been added. Heat the water to the boiling point. Then rinse them under warm running water and add the handkerchiefs to the washer load.

(2) Do you load your washer properly?

A standard washer load shouldn't be larger than 8 or 9 pounds. There should be only two large pieces—such as sheets—in each load. If your washer can be adjusted for a partial load of clothes, be sure you include nothing larger than a shirt in the small load.

In either case, watch the clothes being washed. If they appear and disappear frequently in the sudsy water, you are not overloading the washer.

(3) Do you soften hard water?

Mineral salts, present in hard water, will combine with soap to form a scum. This not only gives clothes a gray look but it lodges in clothing fibers causing them to wear out much faster. If you have hard water, packaged water softeners or detergents will help to do a better job. Or you may wish to install water-conditioning equipment in your home. There are acceptable synthetic detergents on the market which will soften water and clean clothes at the same time. And that brings us to the last question.

(4) Are you using a good detergent and the correct amount?

Test a detergent before using it. Make sure that it is soluble in water of all temperatures used in a washer. There should be no floating scum when it is used. It should be strong enough to clean

No wonder "wash day blues" are a thing of the past! Compare the traditional tubs and pails, used by these Slavakian peasant women, with our modern electrical home laundry equipment. Do you want them?

clothes without harming fabrics or hands. Be sure you follow directions on the detergent box when deciding how much to put in the washer. Some detergents are foaming and some are non-foaming. The amount of suds formed is *not* an indication that you are using the correct amount.

Quick Ham Swirls

Quick Ham Swirls, a ham and biscuit trick, are a tempting way to use the remains of the Sunday ham. Use your favorite biscuit recipe to make the swirls, or rely on a biscuit mix if time is short. The biscuit dough used for the swirls costs only about 12 cents, which makes it a thrifty extender. Serve quick ham swirls with cabbage slaw or lettuce and carrot salad, buttered green peas, and coffee or milk. Applesauce and cookies round out the meal nicely.

Quick Ham Swirls

Biscuit Mixture
2 cups sifted flour
3 tablespoons shortening
3 teaspoons baking powder
2/3 to ¾ cup milk
1 teaspoon salt

Sift together flour, baking powder and salt. Cut or rub in shortening. Add milk to make a soft dough. Turn out on lightly floured pastry cloth. Knead gently ½ minute. Roll out into rectangle ¼ inch thick.

Ham Mixture
1½ cup ground cooked ham
1 teaspoon barbecue sauce
2 teaspoons prepared mustard
½ teaspoon Worcestershire Sauce

Mix together and spread on biscuit mixture. Roll up like jelly-roll and cut in 1-inch slices. Place on baking sheet and bake in moderately hot oven (400°) 12 to 15 minutes. Makes 8 Ham Swirls.

If you use latex or plastic bags for packaging poultry for freezing, try holding the neck of the bag around the vacuum cleaner suction to exhaust the air and make the bag hug the bird.

What Makes the Deming Jet Pump Last Longer?
All working parts of pump hang VERTICALLY from BALL BEARINGS to minimize wear. Perfect alignment of impeller and shaft assures smooth, quiet operation and long life. Other important features make Deming Jet Pumps last longer!
Deming
HOW TO SELECT Home WATER SYSTEM
Send for FREE GUIDE which tells facts about the complete and dependable line of Deming Water Systems.
Fully Illustrated
THE DEMING COMPANY
504 BROADWAY • SALEM, OHIO
DEMING
Dependable
WATER SYSTEMS

IT'S TIME TO PLAN YOUR NEW HAY-DRIER SYSTEM
. . . for installation when mows are empty. You'll sell a greener, leafier, higher grade . . . free from the hazards of field drying. Mow-cure with the 42" Ilgfarmaire direct-connected fan. No belts or pulleys required. Safer, lower maintenance cost. Tried, proved, fully guaranteed. Send coupon for *free bulletin*, complete diagrams and full information on barn hay drying.
ILG
VENTILATION
ILG ELECTRIC VENTILATING CO.
2881 North Crawford Avenue, Chicago 41, Ill.
Offices in more than 40 Principal Cities.
☐ Send ILG Barn Hay-Drier Bulletin No. 902
Name
Address Zone
City State
FREE—New bulletin with diagrams, data and complete information. Send coupon now.

Keep Freezer Busy with Prepared Foods

It is practical to fill extra freezer space with prepared foods right now. They'll be handy to serve during the busier days ahead. Freeze prepared foods for their convenience when they don't crowd fresh foods out of the freezer.

Most prepared foods shouldn't be stored too long. As time goes on, they shrink and their flavor deteriorates. Prebake rolls and bread for best results. Yeast bread and rolls will keep satisfactorily 2 to 3 weeks. The time limit for cakes is 4 to 6 weeks, and for pies and sandwiches it varies with the filling. Baked cookies will keep indefinitely.

Be sure fat used in prepared foods for freezing is sweet and fresh. If the fat is just beginning to turn slightly rancid, it will deteriorate rapidly in a freezer. It's a good idea to use hydrogenated vegetable fat (such as Spry or Crisco) or fat which has been treated to prevent rancidity.

If you store apple pie in the freezer, guard against darkening by treating the fruit with an anti-oxidant. A good one is sodium-bisulfite which may be bought at the drug store. Add 1 teaspoon to 1 quart of water to make a dip. A glass bowl or unchipped enamel kettle should be used for the solution. Place the sliced apples in a cheesecloth bag, dip for 1 minute, and then allow 1 hour for the bisulfite solution to penetrate the apples before freezing.

To lengthen the storage life of pastry, use up to 20 percent soya flour. Make deep dish pies and thicken juice or fillings to avoid soggy undercrusts.

$15.95 BUYS THE ELECTRIC SHAVER THAT CONVINCED BARBERS

Whisker®

COSTS LESS YET DOES MORE!

Take the word of leading barbers—*WhiskER'S* new thin (.002") clipper blade cuts 1 to 7 day beards (even those other shavers will not touch) clean and close. Operates quietly on 110 v., 60 cycle AC; no TV or radio interference! Fast — 14,400 shaving strokes per minute! Women like *WhiskER* for safely removing superfluous hair on legs and under arms. Get *WhiskER* at your Barber or Dealer.

ELECTRO TOOL CORPORATION

DEPT. 461-C • RACINE, WISCONSIN

If Your Barber or Dealer Cannot Supply You
USE THIS COUPON TO ORDER

ELECTRO TOOL CORP., Dept. 461-C, Racine, Wis.
☐ Encl. find $15.95 (check, money order).
☐ Encl. find $5. Send *WhiskER* C.O.D. I'll pay postman balance plus postage.

Name.....
Address.....
City.....Zo.....State.....

Novel Uses for the Vacuum Cleaner

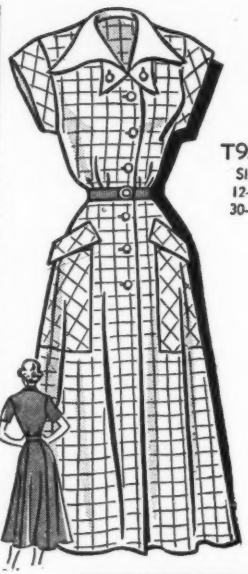
By Julia M. Wolfe

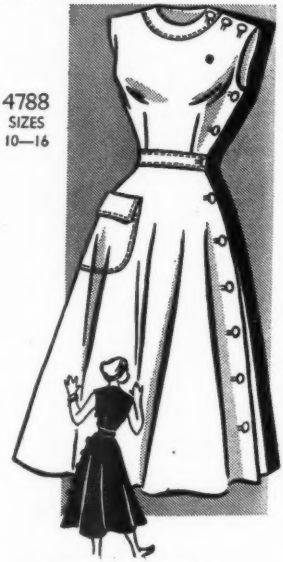
Not only for cleaning rugs, draperies and pillows does the vacuum cleaner do good work. It can be put to use many other ways. Attachments have been devised to do the work of brushes.

Consider the piano, for instance. Dirt seeps in through the front and top boards of the upright, and it settles on the sounding board, the strings and the felted hammers. This dust laden felt tempts moths. So go over the instrument thoroughly, inside and out, every few months. While it takes considerable time to clean it by hand, with the vacuum cleaner it takes but a few minutes.

Don't let your cleaner loaf on the job; watch it sniff out the grit in linen closets, bureau drawers, stair corners, coat closets.

No matter how carefully you clean a hearth, a certain amount of dust and particles of wood or





SPRING PATTERNS

T9270—Plan to wear this step-in frock now and through the summer. Sizes 12-20; 30-42. Size 18 takes 4¾ yard; ⅝ yard contrast 35-inch. 30c.

4788—Sleeveless teenage fashion with button-down side. Opens flat for easier ironing. Sizes 10-16. Size 12 takes 3¼ yards 35-inch fabric. 25c.

Send orders (in coins) for each pattern to: ELECTRICITY ON THE FARM, 196, Pattern Department, 243 West 17th Street, New York 11, New York.

TWENTY CENTS more for the new Spring Pattern Book with a free pattern printed in the book.

coal will stay right there. A little later they are blown or brushed about into the room. If a cleaner is used for this work, it does the job so thoroughly that there is nothing left to be displaced later.

Freshly painted woodwork and varnished floors may be dried with either the electric fan or the vacuum cleaner. If the cleaner is used, remove the dust bag outdoors and let the motor run a few minutes, so as to work out all dust. Then place the cleaner so that the breeze will play over the damp surfaces. The same arrangement may be used to dry a mopped floor.

This same breeze will dry your hair quickly after a shampoo, or help dry damp clothes.

Clean your range with the electric cleaner. Brushes can remove some dirt, but the suction of the vacuum will remove hard-to-reach deposits of dust and dirt.

If you do not send your clothing to the dry-cleaner, it should be gone over with the vacuum before being stored away.

Champion Sheep Shearer

. . . . . (Here from page 22)

be risking its life on a tag or lock.

When tagging, set the ewe on her rump and shear across the belly from one flank to the other. This sheared area should extend four or five inches in front of the udder. Then remove all the tags about the udder, flanks, and inside of the hind legs. Handle the ewes carefully. Other good sheep management practices are: tagging before breeding, shearing summer lambs, shearing feeder lambs and facing wool blind sheep.

Your 4H Club leader can obtain the following educational aids simply by writing to the Sunbeam Corporation, 5600 Roosevelt Road, Dept. LDT, Chicago 50, Illinois.

"Tagging Ewes Before Lambing". A sheep management practice demonstration, completely written out. Tells why ewes should be tagged before lambing and explains how to do it. This would make a good demonstration and it can be given by one or two boys.

"Bulletin No. 23". A twenty page, well illustrated, booklet describing the Australian method of shearing sheep.

"Booklet". Tips on sheep shearing.

"Wall Chart". Shows in thirty large pictures the best way to remove wool from sheep.

The sheep population of the country has been at a very low point. 4H participation in this type of project, however, has increased sheep numbers in some sections. It can do it in others. Wool is a strategic material. We need more of it. And your project can help to bring it about.

Heat Lamps—Jacket?

In our February issue we stated that all heat lamps need a protective hood. We have received letters indicating that Pyrex or hard glass heat lamps do not require this protection from *thermal shock*. However, they stressed the need for protecting soft glass lamps. One of our readers stated, "I have given many demonstrations on heat lamps in which I have poured water on both the soft glass and the Pyrex. Of course, in every case the soft glass lamp broke but I have yet to break a Pyrex lamp by pouring water on it when it is hot and burning."

If you have any question as to the safety of your installation, check with the Farm Representative of your Power Supplier.

When refrigerated dough is to be baked, remove it from refrigerator and shape into rolls. Allow the rolls to stand at room temperature for an hour, or until light. The time varies somewhat with the size of the rolls. Then bake as usual. If desired, the entire batch of dough may be allowed to come to room temperature before shaping, but this requires from 2½ to 3 hours. Since the shaped rolls still need to rise, this method is slower.

"We use the sprayer attachment on the vacuum cleaner to spray water on wall paper in order to remove it."

MRS. E. SCHAEFER, Chilton, Wis.

GOOD, GREEN, LEAFY HAY CURED THE AEROVENT WAY

. . . puts more milk in the pail or faster gain on the steer! Beat the weather! Cut feed costs! Reduce fire hazard with an Aerovent Hay Drier.

AEROVENT FANS

SAFE, EASY TO INSTALL—New square panel and orifice with built-in guard.

RUGGED—Tubular frame and heavy duty ball bearings. Sizes from 24" to 48".

EFFICIENT INSTALLATIONS—Competent planning and engineering service available.

Use the same fan to dry your hay, corn, small grain, or any other crop to be dried.

WRITE FOR FREE DETAILS

AEROVENT FAN & EQUIPMENT CO.
Agricultural Division
[illegible] Bluffton, Michigan U.S.A.

DON'T LET WATER PIPES FREEZE

USE FUSED ELECTRIC THERMOTAPE

READY TO USE! JUST PLUG IT IN!

It's 100% SAFE. Comes ready to use. Simply wrap THERMOTAPE around the pipe or article to be protected from freezing and plug it in. That's all there is to a THERMOTAPE installation.

You can depend upon THERMOTAPE. Used with a SMITH-GATES Thermostat, THERMOTAPE goes to work when the temperature drops to near freezing.

100% SAFE

Ideal for Soil Warming

POULTRY WATER WARMER

Just plug the lead cord into outlet and immerse the heating unit in water . . . that's how simple it is to use. The built-in thermostat automatically turns on-and-off the current. It works only when the weather is cold.

SMITH-GATES CORP.
Plainville, Connecticut

Please send us complete information on the Smith-Gates products.

Name.....

Street.....

City.....State.....

OUTSIDE RUNNING WATER ALL WINTER

IOWA FREEZELESS HYDRANTS

Order yours now and give your stock running water ALL winter. Avoid costly, time-wasting freeze-ups.

★ Toggle action prevents dribbling.
★ Hydrant drains below frostline.
★ No springs or screw threads to wear out. Save on upkeep.

Install on ANY farm water system. Ask your dealer, or write. . . .

WOODFORD HYDRANT CO.
Des Moines 17, Iowa

ANDIS CLIPPER REPAIRS

Have your ANDIS Electric Clippers in good repair so you can keep your stock clean with minimum work. Save costly repairs later by having your Andis Clipper serviced at the factory now.

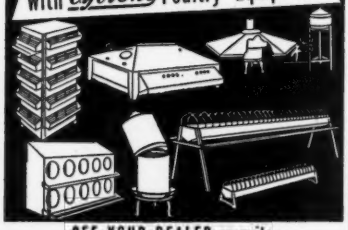
ANDIS CLIPPER CO.
Dept. 481-C Racine, Wisconsin

Save on Feed

Roll grain at home with Wood's Grain Roller for ½¢-1¢ cwt. Stock thrive better. You save work and money. Thousands used. Write for literature.

THE W. C. WOOD CO. LTD.
GUELPH, ONTARIO, CANADA
WAREHOUSES IN U.S.A.

EASIER • FASTER • MORE PROFITABLE with *Cyclone* Poultry Equipment



SEE YOUR DEALER or write
The CYCLONE MFG. CO., URBANA, IND.

Questions and Answers

Intermittent Floor Heat

▶**Question:** *Would you consider the installation of heating pipes in the concrete floor a practical and economical way to heat a farm shop? The heater would be oil-fired. Could antifreeze solution be used in the system for intermittent operation during winter weather?*

G. C. S., Indiana

▶**Answer:** If the farm shop building is well insulated, has storm windows, and is heated continually, floor heating by means of imbedded pipes with circulating hot water would be a good practical system. I would not recommend it for intermittent operation as it would take too long to heat up the floor slab. I do not know of any suitable antifreeze that could be used in the pipes.

Ceiling mounted unit heaters with a blower behind them will probably be the best type of unit for heating such a building. The heat to the unit may be supplied by an oil burning furnace or you may have a complete electric unit. These are thermostatically controlled so that any desired degree of heat may be obtained.

Soil Cable for Silo

▶**Question:** *I have heard of heating cable to melt ice and snow from roofs. Is it possible to hook or tie this cable to the outside of a silo to keep corn or grass from freezing.*

R. O., New York

▶**Answer:** It would not be economical to apply heating cable to the outside of a silo. Nor would the heat penetrate the silo wall in sufficient quantity to keep ensilage from freezing. However, the following method has been used successfully.

After pitching down a feeding, a 60 ft. length of lead covered soil heating cable is placed next to the silo wall. The cable is doubled back on itself twice making four strands. Several forkfuls of ensilage are thrown over it. An electric cord runs from the cable down to a convenience outlet. In cold weather, when the temperature is below 10 degrees, the cord is plugged in about a half hour before going up into the silo. The ensilage will then be thawed out and can be easily removed with a fork.

If the top of the ensilage is mounded up toward the center, less freezing occurs. Such practice may eliminate the need for the cable.

Pipeless Water Heater

▶**Question:** *There are a lot of us with electricity but no running water. Some of us are interested in a unit to heat water in the washing machine. Is there a small unit we can put in the tub?*

A. L., Pennsylvania

▶**Answer:** Immersion heaters that may be used in a tub are available. They are limited to the capacity of the outlet into which they are plugged. A 1320 watt unit of this nature would heat a little over 7 gallons of water from 50° to 120° in about one hour.

Probably a better type of equipment for your use is a thermostatically controlled tank-type water heater. These may be purchased in sizes from ten gallons up to twenty gallons. In these, when the water is heated to the thermostat setting, the current shuts off. From that point on, the only electricity consumed is to heat water which has been added or to replace the small amount of heat which escapes through the insulation. These are economical to operate, need not be connected to plumbing, and will give you a reserve capacity of hot water. They usually have a 500 watt heating element and can be plugged into a convenience outlet.

There are two types of heaters in this class. In one, you fill the heater and then, when the water is hot, draw off as much as required. In the other you fill the heater and when the water is hot you pour in water by the pailful. As the pailful of cold water enters the heater, it forces a pailful of hot water out. They are commonly used in milk rooms.

Milk Cooling Units

▶**Question:** *I have a cement milk cooling tank which I have used for years. Now I want to ship my milk to a nearby city but the inspector says I must have an electric cooler. Are there any cooling units that I can use with my present tank? What is your opinion of the new side-opening coolers?*

T. E. G., Ohio

▶**Answer:** Drop-in milk cooler units can be used with your cement cooling tank. All that is required, is to cut a hole in the cover so that the cooling unit extends down into the water in the

tank. The motor and compressor sit right on top of the cover. You can also obtain units in which the copper cooling coils are placed around the sides of the tank and the compressor mounted on the top.

Recent tests made at the Pennsylvania State College show that the new side opening milk coolers are comparable to the regular water bath milk cooler from the standpoint of speed of cooling, maintenance of low temperature, and cost of operation. As they eliminate much lifting there is very little doubt but what they will continue to grow in popularity.

Freezer Temperature

▶**Question:** *I am not quite sure about the most satisfactory temperature for frozen storage of meat and fruit. I have just purchased a freezer and can keep it down to −16° in the storage compartment. If zero is cool enough for satisfactory storage, it would be more economical to operate. I would be pleased to get any information you might have on this subject.*

W. C. C., Alberta, Canada

▶**Answer:** The commonly accepted temperature of zero degrees is cool enough for satisfactory storage of meats, vegetables, fruits, etc. There is evidence that extremely low temperatures, in the vicinity of minus 40°, practically eliminates all food value loss. However, the difference in loss at that temperature as compared with the loss at zero degrees is an extremely minute quantity. For all practical intents and purposes it is negligible. However, as temperatures rise above zero to the vicinity of 10°, food value loss is accelerated.

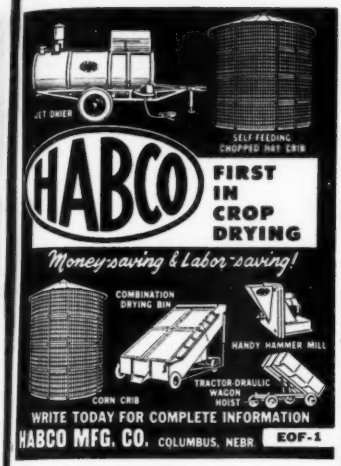
If good practices are followed, which involve proper chilling of foods to be frozen and proper packaging, it would not be wise to operate your freezer at a temperature lower than zero. Foods which have been frozen should be eaten within a normal space of time. Meats will keep for a period up to and including one year. With the exception of beef, they should not be kept longer than that. And longer storage periods will not improve the beef.

Which Pasteurizer?

▶**Question:** *Our pasteurizer has no motor and no agitator. The milk is supposedly kept in constant motion by heat waves. I didn't know there were different types when I bought mine. Is our pasteurizer safe?*

N. R. B., Michigan

▶**Answer:** Just as there are differences in other types of equipment,



WRITE TODAY FOR COMPLETE INFORMATION
HABCO MFG. CO. COLUMBUS, NEBR. EOF-1

DIAMOND
IRON REMOVAL FILTER
Removes iron and other foreign matter which makes water discolored or cloudy. Leaves it crystal-clear and palatable. Moderate cost.
Write for free booklet giving full information.
OSHKOSH FILTER & SOFTENER CO.
Oshkosh, Wis.

EMPIRE
Automatic Electric
PERCO-DRIP
For Coffee That's "Out Of This World"

An Ideal Holiday Gift
Coffee that's clear, rich, sparkling — starts perking within 60 seconds in this beautiful "Empire" Automatic PERCO-DRIP. The "Cold Well" double-wall pump does it! And the Dual-Heat immersion element shuts off automatically before boiling point—keeps coffee "serving hot" for hours.
$8.50
8-Cup Capacity (less cord)
Also 5-Cup Size $7.50 (less cord)
At your dealer—and ask about other Empire Electric Housewares.
THE METAL WARE CORPORATION
TWO RIVERS Dept. EF-11 WISCONSIN

"There's a money saver if I ever saw one!"

Myers Water Systems pay for themselves in savings alone!

PRODUCE MORE FOOD, SAVE LABOR GUARD HEALTH—enjoy trouble-free running water service at *rock-bottom costs.* A Guaranteed Myers Water System is the answer! Its smoothly powerful pump makes the most of every kilowatt . . . rarely requires attention . . . continues to pay its way long after ordinary pumps call it quits! That's because Myers has never scrimped on quality to meet a price. But value considered, you'll find these famous water systems modestly priced indeed. Complete line of *Ejecto* and Reciprocating Types covers every need. See your Myers dealer, or mail coupon today.

MYERS
THE F. E. MYERS & BRO. CO.
Dept. T-49, Ashland, Ohio
Send free literature on
☐ Water Systems ☐ Water Softeners
My Name
Town State
County R. F. D.

New Aeroflow DRY COLD MILK COOLER
Shock-Cool your milk minutes after milking with the new Aeroflow DRY COLD Milk Cooler. Checks bacteria growth instantly! Filters — aerates — stores in DRY COLD. Write for new folder.
Dealership available.
No Water No Lifting
Filters Aerates Refrigerates Stores in One Operation
STAR PUMP & COOLER CORP.
Manufacturers of Farm Equipment 57 Years
1224 No. Fifteenth St. • St. Louis 6, Mo.

MERCURY CLUTCHES SAVE TEMPERS AND ELECTRIC MOTORS

Ever have an electric motor switch on a water pump throw on some cold morning . . . hear the motor grind and see the lights dim way down and then have the fuse blow? You need a MERCURY Automatic Clutch on that motor . . . It takes only 15 minutes to install it and then you have a motor which never hesitates. Put one on every motor and be safe.

If you operate water pumps, milking machines, crop driers, sprayers, corn shellers, elevators, or any equipment driven by an electric motor (or a gasoline engine) you can make starting easier and safe by installing a MERCURY Automatic Clutch. You eliminate dimming lights, blown fuses, burned out wirings, and other fire hazards. Ask your dealer today about an installation or write us for a copy of Catalog H-7.

MERCURY CLUTCH DIVISION
AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO

TELL your dealer you saw it in
ELECTRICITY ON THE FARM *Magazine*

Self-Feeding HAYMAKER

Cut labor costs! Widespread interest is being shown by dairymen and cattlemen in this efficient new MARTIN method of curing and handling chopped hay. No cartting . . . no pitchfork labor . . . plenty of pasture-fresh GREEN hay always available. Increase milk or beef production . . . slash feed and labor costs with the Martin Self-Feeding Haymaker!

For details SEND COUPON TODAY!

MARTIN STEEL PRODUCTS CORP.
304 Longview Ave., Mansfield, Ohio
Please send me FREE literature on ☐ Self-Feeding Haymaker ☐ Silo ☐ Cribs ☐ Bins
Name_____
Address_____

such as tractors, there are differences in pasteurizers. The two most common types of home pasteurizers are made by either the Safgard Division of the Grand Sheet Metal Products Company, 2505 West 24th Street, Chicago, Ill., or the Waters Conley Company of Rochester, Minn.

Both of these companies' equipment successfully pasteurizes milk. The circulation in one is obtained by mechanical agitation. In the other it is maintained by heating currents. Both models are safe if instructions issued by the manufacturer are followed.

Fluorescent Lamp Life

▶**Question:** *We would like information on fluorescent lights. We have two that have been in for 2½ years. They wink and blink some times. Is it true that the only power they take is for lighting up? Is it cheaper to leave them on all day, when it's dark, than to turn them off and on?* H. T. W., Indiana

▶**Answer:** Fluorescent lamps utilize electricity all the time that they are on. Frequent starting and stopping of the lamp is supposed to shorten its life. However, fluorescent lamp life is generally long enough so that the effect of switching may be disregarded.

Fluorescent tubes, as time goes on, will darken at the end. Their light output is reduced thereby. Sometimes, for fuller efficiency, they should be renewed before they go out completely. The flickering in your lamp may be due to its age, or a weakened lamp starter. The starter is a little replaceable cylinder about an inch and a half long.

Greenhouse Heat

▶**Question:** *I have a greenhouse 18' x 55' which I would like to heat with electricity. If this is practical, which method of heating would you recommend? The temperature should range from 50 to 60 degrees inside, with outside winter temperature of —30 degrees.*
W. W., Montana

▶**Answer:** I would not recommend heating a greenhouse electrically where you have minus 30 degree temperatures. Methods commonly used of burying soil heating cable below the plants and using space heaters to keep the air temperature higher, would not be economical for such a large temperature differential. You might find that the use of the soil heating cable would enable you to maintain cooler temperatures within the greenhouse. For complete heating, however, I would recommend the use of a conventional heating boiler.

Interested in a Wagon Unloader?

Send for this FREE FOLDER

Send a 1c post card and you'll get all the facts about the new, Heavy-Duty Flinchbaugh . . . The Pioneer in the electric Wagon Unloading Field!

Ask for Catalog No. 25

THE Flinchbaugh COMPANY
EBERTS LANE, YORK, PA.

SAVE MONEY ON FENCING YOUR LIVESTOCK

SHOX-STOK
ELECTRIC FENCE CONTROLLERS

A SHOX-STOK unit and a single wire on insulators provides effective pasture enclosures at low cost. Units for AC or DC operation. Capacity approximately 15 miles of wire. Thousands in use. Priced from $12.95 to $21.95. See your dealer or write for full information.

GUARANTEED PRODUCTS, INC.
105 MAIN STREET WELLINGTON, OHIO

• Milk Can Racks • Milk House Heaters • Wash Tanks, etc. • Home Pasteurizers Water Heaters

COBURN
MILK HOUSE EQUIPMENT

COBURN MFG. CO. Whitewater 13, Wis.
Write for catalog and Trial Offer Plan

SHELL CORN THIS FAST EASY WAY

135 TO 180 BU. PER HOUR

You've never seen anything to beat BELL'S NEW LOW-COST BALL-BEARING SHELLER. Shells corn about as fast as you can shovel it into the low-built easy feeding hopper, as shown. Equipped with 2-Bag Sacker, wagon loader, cob shaker or cob elevator as desired. Feed large or small, hard or soft ears. Pays for itself in time and labor saved. Electric motor, gasoline engine or tractor power. Write today for illustrated Folder and dealer's name.

THE C. S. BELL CO.
Manufacturers
Dept. E.
HILLSBORO, OHIO

What Would You Say?

CONTEST

Awards for January Contest

The bedroom's cold this time of year
And sheets feel just like ice!
A 'lectric blanket, please, my dear
? ? ? ? ?

The Winning Fourth Lines

FIRST PRIZE—$25 Cash

"'Watt' comfort! 'Watt' paradise!"
Mrs. Olive V. Giltner
RFD 7, Ottumwa, Iowa

"From yawn to dawn, 'Watt' paradise!"
Mrs. G. F. Robinson
RFD Highway 77, Box 791
Ardmore, Oklahoma

"Our 'Cover' charge would slice!"
Mrs. Jerrie Johnson
Box 193, Fairview, Oregon

"The sure 'warmup' device"
Vira Nelson
Wren Shall, Minn.

"Will make this igloo, paradise!"
Gertrude Webster
RFD 3, Sioux Falls, S. Dak.

"A deluxe defrost device."
Hilda Richardson
RFD 2, Harris Mo.

"Bedtime laggards 'twill entice!"
Victor L. Bennett
RFD Pabst Farms
Oconomowoc, Wisc.

Honorable Mention

Charles F. Goessl, RFD 1, Maribel, Wis., Albert Bohn, RFD 2, Angola, Indiana, Patricia D. True, R. 2, Box 278, South Bend, Ind., Mrs. L. Lisle Walker, RFD 1 B.317B, Troutdale, Oregon, John A. Brust, Hanna, Ind., Mrs. Robert Unger, RFD 2, Lodi, Wis., Mrs. Wm. Greeler, RFD 1, Neosho, Wis., Leonard Britton, RR 2, Box 238, Spring Valley, Wis., Herbert Taylor; Route 1, Van Alstyne, Texas Mrs. James Whittemore, RFD 2, Livermore Falls, Maine, Miss Peggy Rupert, RD 1, New Waterford, Ohio, Fred Heid, Jr., Box 33, New Solem, N. Dak.

Here is a contest the whole family can enjoy. Cash Prizes will be awarded for the best suggestion for a fourth line to complete the verse at the bottom of this page.

RULES—MARCH CONTEST

Seven cash prizes will be awarded for the best last line to complete the verse in the coupon below. Your suggestion should rhyme with the second line.

The first prize will be $25 cash; the second prize $10. In addition, five consolation prizes of $3 each will be awarded for the best last line furnished.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

All members of the farm family to whom this magazine was sent may enter but each contestant may submit only one line.

Question "A" must be answered.

Entries must be sent to the Contest Editor, ELECTRICITY ON THE FARM Magazine, 8 So. Dearborn Street, Chicago 3, Ill. before April 1

The decision of the judges is final and all entries become the property of ELECTRICITY ON THE FARM Magazine.

Winning names and entries will be announced in the May 1951 issue.

Send your entry on the coupon or make out a similar form on a plain sheet of paper or government postcard

Are you needin' water heatin'
That's low cost and carefree too?
Wired heat can not be beaten
? ? ? ? ? ?

My suggestion for a fourth line to the above verse is:

.....

If you wanted information about your electrical requirements, where would you go? (Please check answers under each column, A, B, and C.)	A Major electrical household appliances	B Electrical farm production equipment	C Electric lighting and wiring equipment
Power Supplier	.....	.....	.....
Dealer	.....	.....	.....
Manufacturer	.....	.....	.....
County Agent	.....	.....	.....
Electrical Contractor	.....	.....	.....
Vo. Ag. Teacher	.....	.....	.....
Farm Magazines	.....	.....	.....
Testing Services	.....	.....	.....
Neighbor	.....	.....	.....
Anyone Else (please specify)	.....	.....	.....

Why? Col. A. .....
Col. B. .....
Col. C. .....

My name is .....

R.F.D. ..... Post Office .....

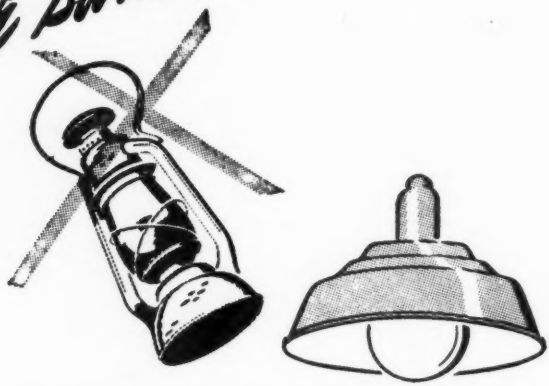
County ..... State .....

Sec. 34.66, P. L. and R.
U. S. POSTAGE
PAID
Dayton, Ohio
Permit No. 213

Mr. H.N. Young,
Director, Agric. Exp. Sta.,
Polytechnic Institute,
Blacksburg, Va.

POSTMASTER:—If undeliverable send Form 3547. Include Stencil number. Postage is guaranteed.
ELECTRICITY ON THE FARM
24 W. 40th St., New York 18, N.Y.

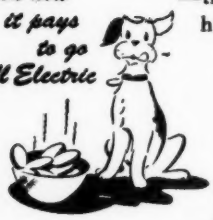
for the same reasons



YOU'LL SWITCH TO MODERN
ELECTRIC COOKING

You didn't stop with electric lights in your barn. You went All Electric and saved yourself time, money and effort. It's your wife's turn now and she too deserves the best—that's a speedy new electric range for her kitchen. She'll find a modern electric range to be clean . . . safe . . . automatic . . . speedy. And you'll find it cheaper, if yours is the average farm on our lines. OF COURSE IT'S ELECTRIC!

Look how it pays to go All Electric



See the new electric ranges and electric water heaters at your dealers

You are sure of the last word in modern equipment and you are sure of the best bargain with the one service, because the more electricity you use the cheaper it gets.

IOWA-ILLINOIS GAS AND ELECTRIC CO.

For help with your electrical problems call our representative, Wayne Sorensen